



Bike Park Wales Tree Survey Addendum 19th December 2018

Membership No: TE03654



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1. Introduction

1.1 Instructions

1.1.1 This is an addendum to Bike Park Wales BS5837:2012 Tree Survey 07/09/18. The proposed site layout has now been developed and the original survey area has been extended.

1.2 Documents Provided

1.2.1

Document Description	Reference Number	Produced By	Date
Masterplan with tree survey numbers			22 nd Nov 2018
Bike Park Wales Landscape Master Plan			22 nd Nov 2018

1.2.2 No independent verification or assessment of these documents has been made by RTAC.

1.3 Proposed Works

1.3.1 The existing visitor centre will be extended to the south. Approximately 40 glamping pods will be built in the woodland area to the east of the visitor centre. Two new parking areas providing space for 199 vans and 44 cars will be constructed to the north and south of the proposed camping area.

1.4 Scope of Survey

1.4.1 This report is concerned with the arboricultural aspects of the site only.

1.4.2 Only the trees on the northern boundary of the site and the trees around the proposed disabled accommodation have been surveyed. No trees outside the site boundaries were inspected.

1.4.3 A walk through survey of the proposed area for the southern car park was undertaken but no further trees were recorded.

1.5 Survey Methodology and Limitations

1.5.1 The survey was carried out on Sunday 9th December 2018, the weather was dry and fair, and visibility was good.

1.5.2 All accessible tree stem diameters were measured at 1.5 metres above ground level using a diameter tape.

1.5.3 The heights of the trees were measured with a Suunto PM-5/360 clinometer and crown spreads were measured using a 30-metre tape.

1.5.4 Observations were made using Visual Tree Assessment (VTA) methodology (Mattheck 1994). The data was recorded using Pear Technology Pocket GIS on a Panasonic Toughbook CF19.

1.5.5 The trees surveyed have been numbered with round 2-inch aluminium tags numbered from 220 to 253 inclusive and given the prefix 'T'; woodland areas have been given the prefix 'W'.

1.5.6 The purpose of this survey is to assess the trees in accordance with BS5837:2012 and with respect to the proposed development and the survey is not intended to be a full tree condition or hazard survey. Where trees are not accessible because of ground conditions, vegetation or fences, a limited survey has been carried out. No vegetation has been removed to carry out inspections.

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.

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.

1.6 Statutory Designations

1.6.1 Rolf Brown, Ecologist and Countryside Officer for Merthyr Tydfil County Borough Council has confirmed that the areas proposed for development are covered by Tree Preservation Order (TPO) 1951 (No. 4) Abercanaid. In addition, small components of the site either lie within or border a Restored Ancient Woodland site, and the whole site lies within Graig Gethin Site of Importance for Nature Conservation (SINC) and Abercanaid Fields Site of Importance for Nature Conservation. The sites lie within Natural Resources Wales's Gethin Woodland Park. Area 1 is bordered to the south by an area of ancient semi-natural woodland and the proposed car park to the north of the site is also bordered by an area of ancient semi-natural woodland, see Natural Resources Wales Map, Appendix II.

1.6.2 No works may be carried out to trees covered by a TPO without the submission of a treeworks application to the Local Planning Authority, except for the removal of

dead, dying or dangerous trees, works to abate a nuisance and works in accordance with full planning consent.

1.6.3 Ancient Semi-Natural Woodland (ASNW) – broadleaf woodlands comprising mainly native tree and shrub species which are believed to have been in existence for over 400 years.

1.6.4 Restored Ancient Woodland Sites (RAWS) – woodlands which are predominately broadleaves now and are believed to have been continually wooded for over 400 years. These woodlands will have gone through a phase when canopy cover was more than 50% non-native conifer tree species and now have a canopy cover of more than 50 percent broadleaf.

1.6.5 The National Planning Policy Framework published 27th March 2012, contains the following policy: Chapter 11 Conserving and Enhancing the Natural Environment, Paragraph 118.

‘planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss;’

1.6.6 Planning Policy Wales Edition 10 December 2018 contains the following policy: Section 6: Distinctive and Natural Places.

6.4.26 Ancient woodland and semi-natural woodlands and individual ancient, veteran and heritage trees are irreplaceable natural resources, and have significant landscape, biodiversity and cultural value. Such trees and woodlands should be afforded protection from development which would result in their loss or deterioration unless there are significant and clearly defined public benefits; this protection should 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.

1.6.7 The Merthyr Tydfil Local Development Plan 2006 -2021 adopted on 25th May 2011 contains the following policy: BW5: Natural heritage.

‘The Council will protect and support the enhancement of the County Borough’s distinctive natural heritage. Development proposals will only be permitted where they maintain, enhance or do not cause harm to:-

- the landscape character of the countryside;*
- national and local nature conservation designations;*
- trees, woodlands and hedgerows that have natural heritage value or contribute to the character and amenity of an area; and*
- other biodiversity interests, including protected and priority species and ecological networks.’*

2. Site Analysis

2.1 Site Location

2.1.1 Site Address: Bike Park Wales, Gethin Woodland Centre, Abercanaid, Merthyr Tydfil CF48 1YZ.

2.1.2 Ordnance Survey grid reference: SO049034.

2.2 Site Description

2.2.1 Bike Park Wales is a mountain biking centre on a hillside adjacent to the A470 south of Merthyr Tydfil. The site is predominantly broadleaf woodland with some open areas of rough grassland.

3. Treeworks Recommendations

3.1

Tree No	Species	Work Required	Priority
T222	Alder	Remove minor and suspended deadwood branches	3 Months
T225	Alder	Fell decayed largest stem	6 Months
T229	Alder	Remove major deadwood	3 Months
T230	Oak	Remove major deadwood	6 Months
T231	Oak	Monitor tree for signs of fungal fruiting bodies or decline	6 Months
T233	Oak	Remove major deadwood	3 Months
T243	Oak	Remove major deadwood	6 Months
T244	Oak	Fell	1 Year
T245	Oak	Remove major deadwood	1 Year
T250	Oak	Remove minor deadwood	1 Year

3.2 All treeworks must be carried out in accordance with BS3998:2010 Recommendations for Treeworks.

4. The Trees

Thirty-four individual trees were recorded during this survey, the survey data is in Appendix I.

4.1 Ancient Semi-Natural Woodland and Veteran Trees

4.1.1 The Forestry Commission and Natural England's standing advice with regards to ancient woodland and ancient and veteran trees requires the use of buffer zones. Buffer zones for ancient woodland should be at least fifteen metres. Buffer zones for ancient or veteran trees should be at least fifteen times the diameter of the tree. There are two areas of ancient semi-natural woodland to the north and south of the site. T242, T250, T253 and T1551 have been classified as veterans. In addition, the north-eastern corner of W2 contains several semi-mature and mature oaks, due to time restrictions not all these trees have been surveyed. Should any works be carried out in the vicinity of these trees, it is advisable to carry out more extensive surveys including climbing surveys and possibly inspections with decay detecting equipment.

4.2 North Car Park

4.2.1 A stream runs from east to west approximately twenty metres to the north of the proposed parking area. A steep bank to the south of this stream and the stream itself protects most of the woodland from any impacts of construction works. Semi-mature and mature trees to the south of the fence line at the top of the bank have been recorded, however, any construction works in this area are well outside the fifteen-metre exclusion zone required. The woodland here is quite sparse with a few large semi-mature trees interspersed with hazel coppice.

4.2.2 The majority of trees between the existing track and the fence line are young and semi-mature silver birch, alder and willow with an average stem diameter of 200mm.

4.2.3 The area proposed for the car park is rough grassland with some young self-set alder and birch. A small group of semi-mature alder and one oak are growing at the eastern end of this area, all these trees are classed as C category; the oak appears to be in decline and the removal of these trees will not have a detrimental effect on the amenity value of the site or have any impact on the surrounding woodland area.

4.2.4 The ground profile here will be altered as the car parking areas need to be terraced to make them accessible. Any works will be well outside the fifteen-metre exclusion zone.

4.3 South Car Park

4.3.1 The south car park will be constructed in the woodland at the southernmost point of the site. The car park will be accessed via an existing track which will be improved and extended into the parking area.

4.3.2 The woodland here consists primarily of semi-mature alder interspersed with hazel coppice. The car park will be constructed towards the eastern edge of this woodland adjacent to the field boundary. The boundary with the field can be reinforced by planting with native species such as oak, alder and holly. The trees growing on the steep bank leading down from the access road to the west of this area will be retained and this will screen the new parking area from view.

4.3.3 The car park will require the removal of an area of ancient semi-natural woodland measuring approximately 1000 m². One mature oak tree will be felled, the remaining trees to be removed will be predominantly young and semi-mature alder and hazel. The additional planting along the field boundary will mitigate for the trees removed and prevent any loss of connectivity of woodland areas.

4.3.4 The parking area can be fenced which will prevent pedestrian access into this area of the woodland.

5. Mitigative Strategies

5.1 Buffer zones will be used around the woodland areas, fifteen metres from W1 and three metres from the other woodland areas. No excavations or changes of ground levels will be carried out in these areas.

5.2 Woodland areas and veteran trees which require protection can be fenced off to prevent pedestrian access after works have been completed.

5.2 Extensive planting of native tree and shrub species is proposed around the site. The number of trees planted will be in excess of the trees removed. The area between the southern car park and the field boundary to the east will be planted with native species to mitigate for trees removed and to screen the car park from view.

5.3 Cellweb will be used for all vehicle routes and parking areas within the woodland areas. A protective membrane such as Treetex must be used below the Cellweb to prevent contamination of the soil from vehicle pollutants.

5.4 Cellweb is a cellular confinement system that protects the ground below from compaction. The geogrid has been specifically designed for use in areas where tree roots must be avoided or protected from development (see Appendix III) and will be used for any parking areas or access paths within the woodland areas.

5.5 Glamping pods will be situated in the areas containing predominantly young coppiced trees. The sites for the pods will be selected to minimise the number of trees that need to be removed.

APPENDICES

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.

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BS5837:2012 Tree Survey

RTAC

Client: Liam Hopkins
 Project: Bike Park Wales
 Survey Date: 09/12/2018
 Surveyor: Liz Phillips

6 Courtyard Flats
 Stable Yard
 Stackpole
 Pembroke
 SA71 5DE
 Mobile: 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			
T220 no tag												Estimated Measurements		
European Larch <i>Larix decidua</i>		18	1	500	N	6	4	SM	A: 113.1 R: 6	Good	C: Good S: Good B: Good	No action :: Unspecified ----- A.2 >40 yrs		
T221 no tag														
European Larch <i>Larix decidua</i>		19	1	500	N	5	5	SM	A: 113.1 R: 6	Good	C: Good S: Good B: Good	No action :: Unspecified ----- Broken branch and minor deadwood in crown. ----- A.2 >40 yrs		
T222 222														
Common Alder <i>Alnus glutinosa</i>		16	3	715 (Eq)	N	5	4	SM	A: 231.5 R: 8.58	Fair	C: Fair S: Good B: Good	Remove :: Minor dead wood Remove :: Suspended or broken branches ----- Remove broken branches and deadwood over trail. ----- C.2 20 to 40 yrs		
T223 223														
Common Alder <i>Alnus glutinosa</i>		14	2	575 (Eq)	N	6	6	SM	A: 149.4 R: 6.89	Good	C: Good S: Good B: Good	No action :: Unspecified ----- C.2 >40 yrs		
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				

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			
T224 224													
Common Alder <i>Alnus glutinosa</i>	19	1	450	N E S W	6 6 4 6	9 8 7 8	SM A: 91.6 R: 5.39	Good	C: Good S: Good B: Good	No action :: Unspecified			C.2 >40 yrs
T225 225													
Common Alder <i>Alnus glutinosa</i>	9	1	440	N E S W	5 3 4 6	2 2 2 4	SM A: 87.6 R: 5.28	Poor	C: Poor S: Poor B: Poor	Fell :: Largest stem Largest stem badly decayed.			U <10 yrs
T226 226													
Common Alder <i>Alnus glutinosa</i>	8	1	570	N E S W	4 4 5 5	6 4 4 4	SM A: 147 R: 6.84	Good	C: Good S: Fair B: Good	No action :: Unspecified Minor cavities in stem. Large bark wound at base of stem on west side.			C.2 10 to 20 yrs
T227 227													
Common Alder <i>Alnus glutinosa</i>	12	3	699 (Eq)	N E S W	8 7 8 5	7 4 2 4	SM A: 220.8 R: 8.38	Good	C: Good S: Good B: Good	No action :: Unspecified			C.2 20 to 40 yrs
T228 228													
Common Alder <i>Alnus glutinosa</i>	10	1	430	N E S W	5 3 6 5	3 5 3 5	SM A: 83.7 R: 5.16	Good	C: Good S: Good B: Good	No action :: Unspecified			C.2 >40 yrs
T229 229													
Common Alder <i>Alnus glutinosa</i>	10	5	544 (Eq)	N E S W	4 7 8 7	8 7 2 8	SM A: 133.7 R: 6.52	Good	C: Fair S: Good B: Good	Remove :: Major dead wood Remove deadwood over trail.			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	

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													
Common Oak <i>Quercus robur</i>		22	1	720	N E S W	8 7 8 8	7 6 7 6	SM A: 234.5 R: 8.63	Good	C: Good S: Good B: Good	Remove :: Major dead wood Remove deadwood over trail.		B.2 >40 yrs
T231 231													
Common Oak <i>Quercus robur</i>		32	1	1340	N E S W	8 14 15 14	9 5 2 8	M A: 707 R: 15	Good	C: Good S: Good B: Good	Monitor :: Unspecified Large bark wound to 2m east side. Cavity formed at base approx 1.5m h, 1.3m w at base and 1.2m d. There appears to be brown rot at rear of cavity, no signs of fungi at the time of this inspection. Crack in wood above rotten area. Approx 1/3 of base of stem decayed.		C.2 10 to 20 yrs
T232 232													
Common Oak <i>Quercus robur</i>		13	1	830	N E S W	14 13 5 11	3 4 2 3	SM A: 311.7 R: 9.96	Good	C: Good S: Good B: Good	No action :: Unspecified Suppressed by T231.		B.2 10 to 20 yrs
T233 233													
Common Oak <i>Quercus robur</i>		22	1	900	N E S W	7 10 10 10	14 2 6 2	M A: 366.5 R: 10.8	Good	C: Good S: Good B: Good	Remove :: Major dead wood Remove deadwood over trail.		A.2 >40 yrs
T234 234												Estimated Measurements	
Common Oak <i>Quercus robur</i>		18	1	800	N E S W	8 9 9 7	10 8 5 8	SM A: 289.6 R: 9.6	Good	C: Good S: Good B: Good	No action :: Unspecified		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	

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			
T235 235														
Common Alder <i>Alnus glutinosa</i>		11	1	420	N	5	4	SM	A: 79.8 R: 5.03	Good	C: Good S: Good B: Good	No action :: Unspecified		C.2 >40 yrs
T236 236														
Common Ash <i>Fraxinus excelsior</i>		15	3	355 (Eq)	N	4.5	1	SM	A: 56.9 R: 4.25	Good	C: Good S: Good B: Good	No action :: Unspecified		C.2 >40 yrs
T237 237														
Common Oak <i>Quercus robur</i>		18	1	900	N	7	4	SM	A: 366.5 R: 10.8	Good	C: Good S: Good B: Good	No action :: Unspecified		A.2 >40 yrs
T238 238												Estimated Measurements		
Common Oak <i>Quercus robur</i>		18	2	1131 (Eq)	N	7	16	M	A: 579.1 R: 13.57	Fair	C: Fair S: Good B: Good	No action :: Unspecified		B.2 >40 yrs
T239 239												Estimated Measurements		
Common Alder <i>Alnus glutinosa</i>		14	1	240	N	2	4	SM	A: 26.1 R: 2.88	Good	C: Good S: Good B: Good	No action :: Unspecified		C.2 >40 yrs
T240 no tag														
Common Oak <i>Quercus robur</i>		8	1	680	N	6	4	SM	A: 209.2 R: 8.16	Good	C: Poor S: Good B: Good	No action :: Unspecified		C.2 10 to 20 yrs
					E	8	5					Large amounts of deadwood in crown of tree, appears to be in decline.		
					S	6	6							
					W	7	5							
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	

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			
T241 241												Estimated Measurements		
Common Alder <i>Alnus glutinosa</i>		13	1	260	N E S W	4 4 4 4		SM	A: 30.6 R: 3.12	Good	C: Good S: Good B: Good	Fell :: Fell to facilitate development ----- Group of semi-mature alder.		C.2 >40 yrs
T242 242														
Common Oak <i>Quercus robur</i>		21	1	1080	N E S W	8 9 13 11	7	M	A: 527.7 R: 12.96	Good	C: Fair S: Ivy B: Good	No action :: Unspecified ----- Major deadwood. One large collapsed branch.		B.2 >40 yrs
T243 243														
Common Oak <i>Quercus robur</i>		22	1	980	N E S W	8 10 11 12	5 7	SM	A: 434.5 R: 11.76	Good	C: Good S: Good B: Good	Remove :: Major dead wood ----- Remove deadwood over track.		A.2 >40 yrs
T244 244													Estimated Measurements	
Common Oak <i>Quercus robur</i>		7	1	500	N E S W	1 4 4 2		SM	A: 113.1 R: 6	Dead	C: Poor S: Poor B: Poor	Fell :: Fell to ground level -----		U n/a
T245 245														
Common Oak <i>Quercus robur</i>		20	2	894 (Eq)	N E S W	9 9 4 10	3 9 8 6	SM	A: 362 R: 10.73	Fair	C: Fair S: Ivy B: Good	Remove :: Major dead wood -----		C.2 >40 yrs
T246 246														
Common Oak <i>Quercus robur</i>		16	1	730	N E S W	8 6 3 3	4 4 8 9	SM	A: 241.1 R: 8.76	Good	C: Good S: Fair B: Good	No action :: Unspecified ----- Cavity at base of stem on west side.		C.2 10 to 20 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	

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			
T247 247														
Common Oak <i>Quercus robur</i>		22	1	620	N E S W	9 9 7 8	8 SM	A: 173.9 R: 7.44	Good	C: Good S: Good B: Good	No action :: Unspecified			B.2 >40 yrs
T248 248														
Common Oak <i>Quercus robur</i>		14	1	500	N E S W	6 7 3 3	6 1 6 5	SM A: 113.1 R: 6	Good	C: Fair S: Good B: Good	No action :: Unspecified Asymmetrical crown. Minor deadwood.			C.2 >40 yrs
T249 249														
Common Oak <i>Quercus robur</i>		15	1	620	N E S W	7 5 4 7	3 5	SM A: 173.9 R: 7.44	Good	C: Good S: Good B: Good	No action :: Unspecified			C.2 >40 yrs
T250 250														
Common Oak <i>Quercus robur</i>		27	1	930	N E S W	11 7 14 13	6 7 4 5	M A: 391.3 R: 11.16	Fair	C: Good S: Fair B: Fair	Remove :: Minor dead wood Ganoderma adspersum brackets visible at base on west side of stem. Bark wound on west side of stem to 1.5m - area here sounds hollow when tapped with a plastic mallet indicating decay in this region.			C.2 10 to 20 yrs
T251 251														
Common Oak <i>Quercus robur</i>		26	1	810	N E S W	12 9 7 5	8 11 11 12	SM A: 296.9 R: 9.72	Fair	C: Good S: Poor B: Fair	No action :: Unspecified Large area of decayed bark to 2m on east side of stem.			C.2 10 to 20 yrs
T252 252														
Common Oak <i>Quercus robur</i>		26	1	940	N E S W	5 8 14 14	15 9 6 12	SM A: 399.8 R: 11.28	Fair	C: Fair S: Fair B: Good	No action :: Unspecified Area of decayed bark to 1m on north-east side of stem, no fungal fruiting bodies visible at the time of this inspection. Asymmetrical crown.			B.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 (Eq)	Diameter Equivalent stem diameter using BS5837:2012 definition	

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		
T253	253												
Common Oak		25	1	980	N	12	8	A: 434.5 R: 11.76	Good	C: Good	No action :: Unspecified	B.2	
Quercus robur				E	11	9	S: Good			>40 yrs			
				S	12	6	B: Good						
				W	6	12							
W1	no tag										Estimated Measurements		
A Woodland		14	1	200	N	3		A: 18.1	Good	C: Good	No action :: Unspecified	C.2	
- Unknown				E	3		R: 2.4	S: Good		>40 yrs			
				S	3			B: Good					
				W	3								

Report selection criteria.

Projects.

Bike Park Wales

Date Range.

Any Date

Work types.

----> Fell :: Fell to facilitate development
 ----> Fell :: Fell to ground level
 ----> Fell :: Largest stem
 ----> Monitor :: Unspecified
 ----> No action :: Unspecified
 ----> Remove :: Major dead wood
 ----> Remove :: Minor dead wood
 ----> 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) **35**

Number of trees in Report selection **35**

Age Classifications:

N	Newly planted	EM	Early Mature
Y	Young	M	Mature
SM	Semi-mature	OM	Over Mature

Condition:

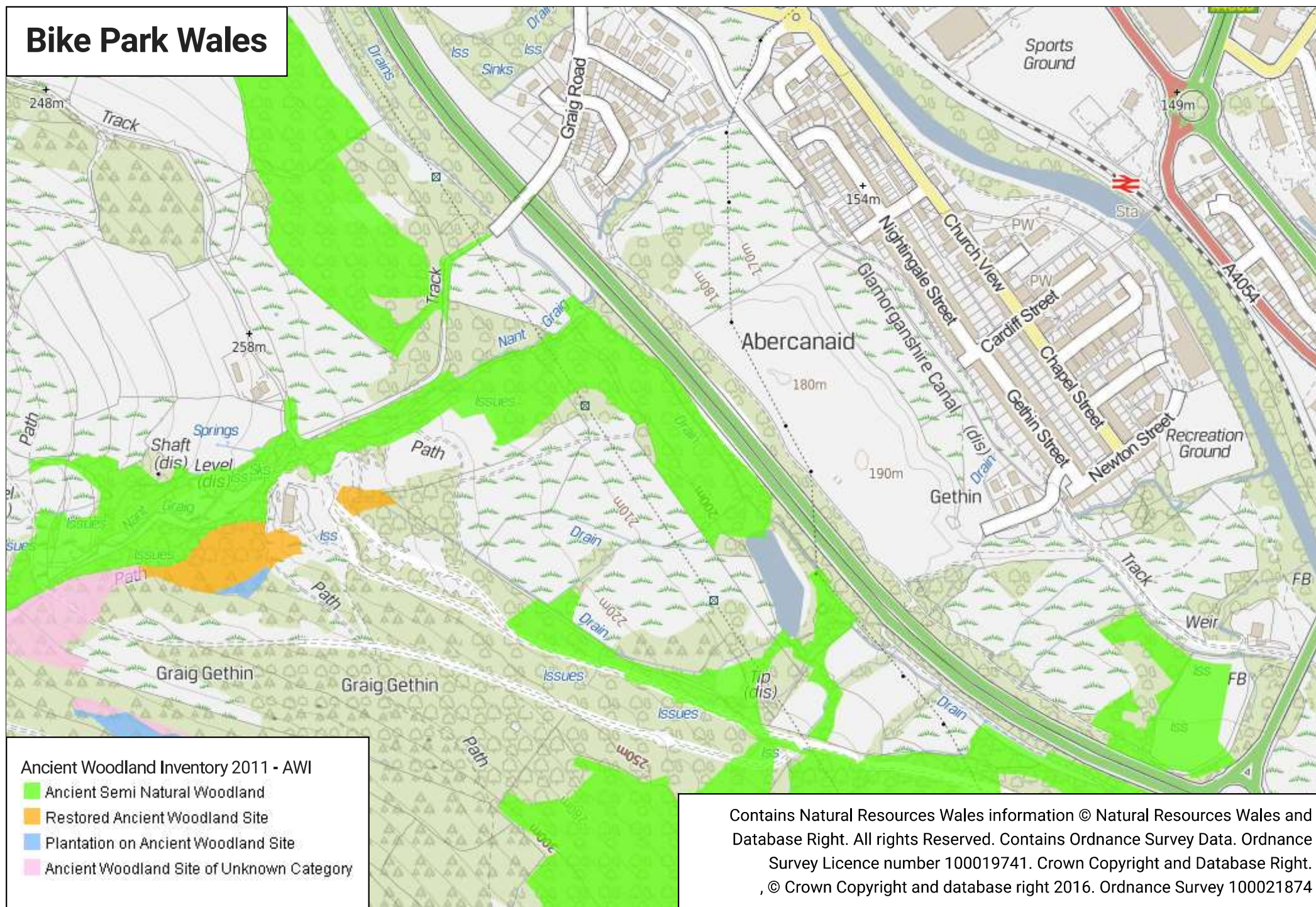
C	Crown
S	Stem
B	Basal area

Stems:

Ø	Diameter
(Eq)	Equivalent stem diameter using BS5837:2012 definition

II. Site Plans

Bike Park Wales



III. Photographs



T231



W1 woodland edge



W1 woodland edge



Area proposed for northern car park



North-eastern corner of W2



Semi-mature and mature oak trees W2



Area for disabled accommodation



Woodland to the east of northern parking area



T242



Area for disabled pods



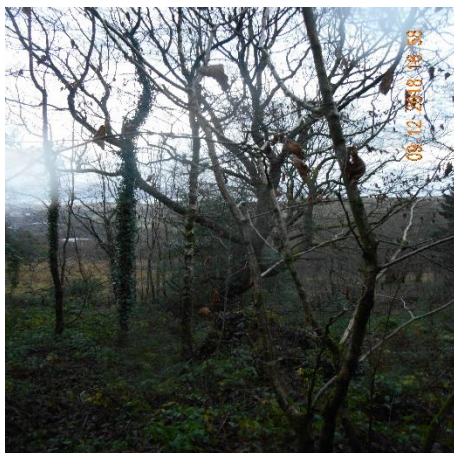
Access from north car park



T1551



Area proposed for southern car park



Area proposed for southern car park



T1565 – to be removed

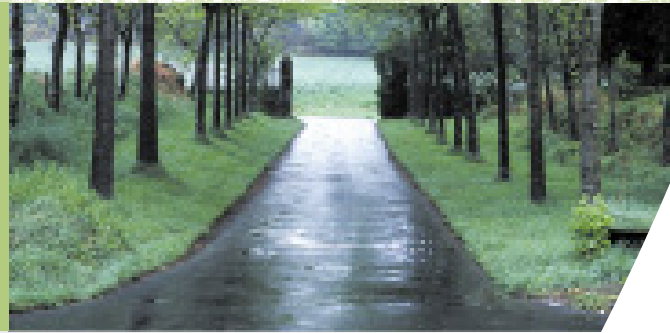


Ancient semi-natural woodland W3

IV. Cellweb



Cellweb®TRP



Tree Root Protection Guaranteed



Geosynthetic

www.geosyn.co.uk

Cellweb® TRP System

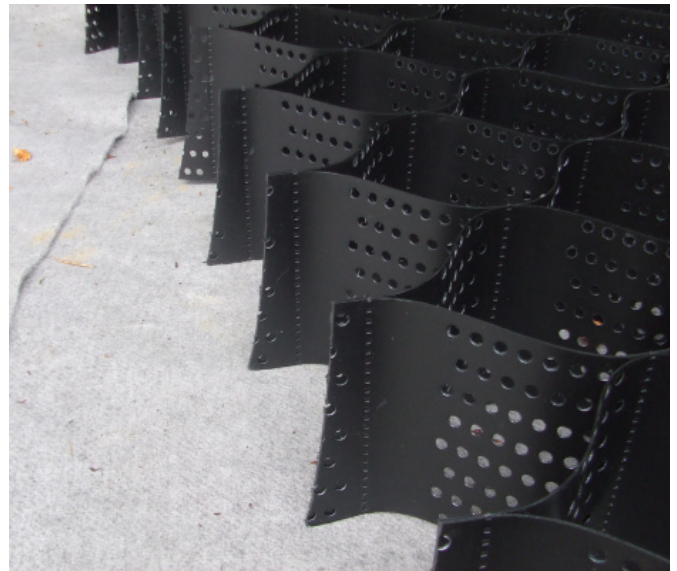
Tree Root Protection System



The Consequences Of Tree Root Damage During Construction

It is an offence to cut down, lop, uproot, top, wilfully damage or destroy a protected tree without authorisation. Trees can be protected under the Town and Country Planning Act 1990 and the Town and Country Planning (Trees) Regulations 1999. Trees are protected when they are the subject of Tree Preservation Orders (T.P.O) or within Conservation Areas, subject to certain exemptions. Retention and protection of trees on development sites is also secured through the use of planning conditions.

On a construction site all trees with a Tree Preservation Orders need to be managed in accordance with BS5837 2005 (Trees in relation to construction); failure to comply with these orders can be a costly affair as many parties have discovered.



Fishponds, Ketton

There are two offences which apply equally to trees protected by Tree Preservation Orders and those within Conservation Areas:

- Firstly, anyone who cuts down, uproots or wilfully destroys a tree, or who lops, tops or wilfully damages it in a way that is likely to destroy it is liable, if convicted in the Magistrates Court, to pay a fine of up to £20,000. If the person is committed for trial in the Crown Court, they are liable on conviction to an unlimited fine. The Courts have held that it is not necessary for a tree to be obliterated for it to be “destroyed” for the purposes of the legislation. It is sufficient for the tree to have been rendered useless as an amenity.
- Secondly, anyone who carries out works on a tree that are not likely to destroy it is liable, if convicted in the Magistrates Court, to a fine of up to £2,500. In addition to directly carrying out unauthorised works on protected trees, it is an offence to cause or permit such works.

Developers and building contractors are often completely unaware that ‘compaction of soils within the Root Protection Area (RPA)’ constitutes wilful damage to the tree. When vehicular or pedestrian access within the RPA is necessary, either for the construction operation or final site access, the effects of this activity must be addressed and the ground must be protected. When tracked or wheeled traffic movements are involved, the ground protection system should be designed by an engineer and take into account the loading involved.



Shelton Road, Shrewsbury

The Solution:

Geosynthetics Cellweb® TRP System



The Solution According to BS 5837:2012

“Appropriate sub-base options for new hard surfacing include three-dimensional cellular confinement systems

(BS 5837 2012 section 7.4.2 Note 1)

The Cellweb® TRP Solution

Cellweb® TRP is the market leader in the United Kingdom and Ireland for tree root protection. Cellweb® TRP cellular confinement system protects tree roots from the damaging effects of compaction and desiccation, while creating a stable, load bearing surface for vehicular traffic. Cellweb® TRP complies with BS 5837:2005 and APN 1. It provides a no-dig solution, is tried and tested having been used successfully since 1998. It is the only tree root protection system which has been independently tested and it is the only tree root protection system which is guaranteed for 20 years. See page 6 for the full terms and conditions of the guarantee.



Fishponds, Ketton

Field Trials

Geosynthetics Limited are the only company in the UK and Ireland to carry out live, completely independent field tests on the performance of a 3 dimensional cellular confinement system when used in a no-dig tree root protection system application. The results prove that Cellweb® TRP significantly reduces the compaction of sub-soils within the root growth limiting parameters established by K D Coder, ‘Soil damage from compaction’. University of Georgia. July 2000. A copy of the report is available upon request.

Cellweb® TRP Product Guarantee

Geosynthetics Limited prides itself on a providing a reliable, consistent service; including technical advice, on site support and installation guidance. Geosynthetics Limited provides a 20 year guarantee for the Cellweb® TRP tree root protection system. This guarantee gives the client, the tree officer and arboricultural consultant the confidence that the designed system will perform as intended without damaging the health of the tree.

See page 6 for the full terms and conditions of the guarantee.

Cellweb® TRP System

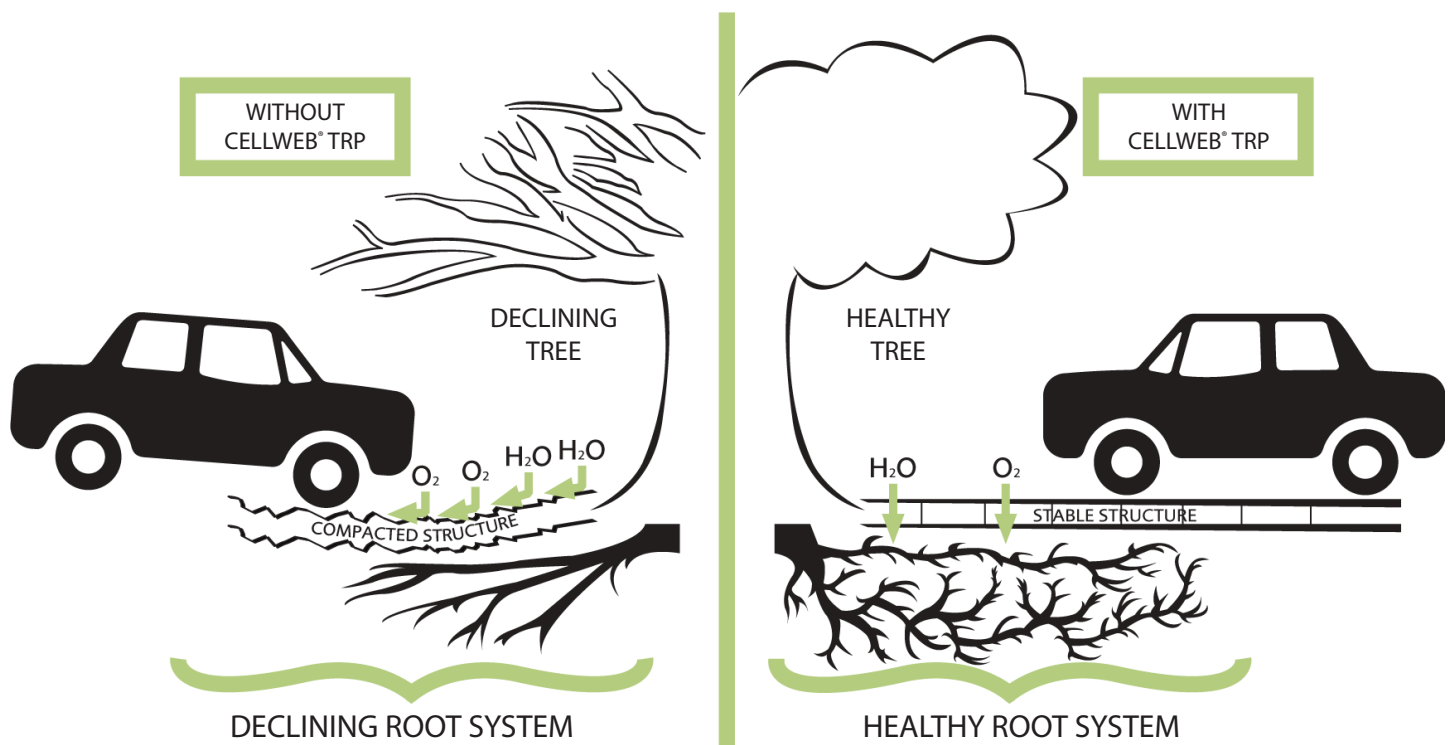
How the System Works



How Cellweb® TRP Works

Cellweb® TRP is a cellular confinement system that confines aggregate materials and makes them stronger, thus increasing the bearing capacity of the sub base materials. Research shows that Cellweb® TRP acts as a stiff raft to distribute wheel loads and reduce their magnitude at the base of the construction, thus maintaining the soil bulk density at levels that are suitable for tree root growth.

Cellweb® TRP is used around the world to provide cost effective hard surface construction over tree roots and is the system of choice for Tree Officers and Arboriculturists. For more information on this subject see Cellweb® TRP Fact Sheet No 1.



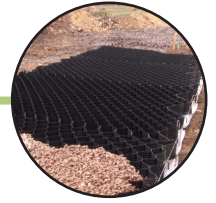
Water and Oxygen Transfer Through the Cellweb® TRP System

The Cellweb® TRP system is constructed using open aggregate infill and Cellweb® TRP has perforated cell walls. The pore spaces between the aggregate particles are greater than 0.1mm in diameter. This open structure is far more permeable than typical soils and allows the free movement of water and oxygen so that supplies to trees are maintained.

For more information on this subject see Cellweb® TRP Fact Sheet No 2.

Cellweb® TRP and Pollution

How Cellweb® TRP Deals With Catastrophic Oil Spills



How Cellweb® TRP Deals With Pollution

Where possible a permeable pavement system should always be constructed above the Cellweb® TRP system. The effective removal of pollution from runoff by permeable pavements is well known. Worldwide research has shown runoff that has passed through permeable pavements has low concentrations of pollutants.

Small spills of oil will be dealt with within the joints between the paving blocks and in the aggregate used within the system. However, large catastrophic spills are a different matter.

For more information on this subject see Cellweb® TRP Fact Sheet No 3.



Castle Gardens



Ambleside Lake District



Harcourt Aboretum

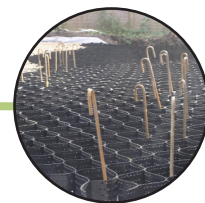
The Treetex™ geotextile used in the Cellweb® TRP system has two functions. Treetex™ separates the sub base aggregates from the soil beneath and it traps oil within its structure and allows it to degrade aerobically within the pavement construction. The structure, thickness and weight of Treetex™ creates the perfect environment for this to happen. Most importantly tests prove that Treetex™ will absorb 1.7 litres of oil per square metre, this is 4 times more effective than standard geotextiles.

Treetex™ is an intrinsic part of the Cellweb® TRP system; and must be in conjunction with the Cellweb® TRP in order to guarantee the success of the system.

Please see page 6 for full details of the guarantee.

Geosynthetics Cellweb® TRP System:

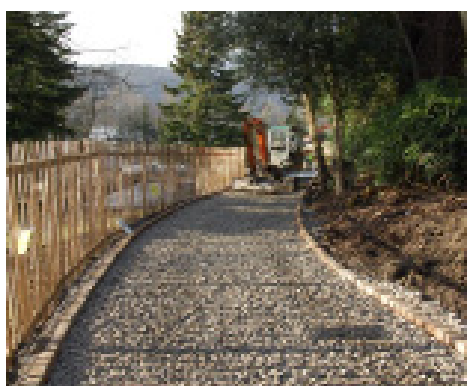
A Proven No Dig Solution



Advice, Design and Product Selection

Geosynthetics Limited has been supplying the Cellweb® TRP system since 1998 and has vast experience in its application. No two contracts are the same and we understand the factors that need to be taken into account to specify the correct Cellweb® TRP product.

We provide a free consultation, design and advisory service to find the solution that is most cost effective and beneficial for your site. Our service includes product selection, engineering calculations, CAD drawings and full instructions to help you from project conception to completion.



*Fallbarrow Park, Windermere:
Prior to Cellweb® TRP Installation*



*Fallbarrow Park, Windermere:
Cellweb® TRP Installation*



*Fallbarrow Park, Windermere:
Completed Cellweb® TRP Installation*

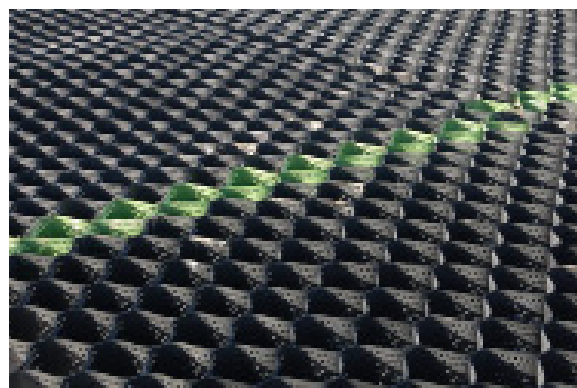
Final Surfacing

The benefits of the Cellweb® TRP system can only be maintained if a suitably porous final surface is selected. An ideal surfacing is the Golpla grass reinforcement and gravel retention system, a visually attractive surface that has the advantage of being fully porous. Alternatives include block paviers, porous asphalts and loose or bonded gravel.

Always Use Cellweb® TRP

The Cellweb® TRP system is the only research backed system of its kind in the UK with a 100% success rate. Cellweb® TRP has been specifically developed for the Tree Root Protection market. The system is supported by 15 years of data and thousands of installations making it the system of choice for the majority of Tree Officers and Arboriculturists in the UK.

Cellweb® TRP is uniquely identifiable. It is manufactured with a bright green panel on each side. When installed the green panels are laid adjacent, creating a green band



Woodcock Hall, Yorkshire

Cellweb® TRP Product Guarantee



We hereby guarantee Cellweb® TRP against the death of any tree caused by a failure of Cellweb® TRP which its installation was intended to protect for a period of 20 years starting from the date of this guarantee.

Conditions of Guarantee

1. The details set out below must be correct in all respects.
2. We can only guarantee Cellweb® TRP where its installation has been carried out to high standards. Therefore our guarantee will only be applicable where:
 - (a) we have provided the designs in relation to the installation,
 - (b) the installation has been carried out by suitably proficient contractors,
 - (c) the installation has been carried out strictly in accordance with the installation specification/method statement available at the time of the installation,
 - (d) Cellweb® TRP has been incorporated into the installation above (and where specified as necessary, below) a Treetex™ T300 Geotextile (or such updated replacement product as we may recommend), and
 - (e) the installation has been carried out using pins and panel staplers purchased from us or using similar products which are of the same or a higher quality.
3. If you experience any problems with the installation, you must tell us immediately. You must allow us onto the site at all reasonable times so that we can inspect the site and the installation to determine whether the Cellweb® TRP has failed.
4. As we need to determine whether the Cellweb® TRP has failed or whether the tree has been killed or damaged by another cause, you must not allow anyone else to examine the installation before we have the opportunity to inspect it as damage could be caused to the installation by any other inspection. If you do let third parties onto the site or you or your agents interfere with the installation this guarantee will lapse.
5. Your use of the surface and the traffic flow over the installation must be (and at all times have been) in accordance with the information provided to us at the time of the design of the installation. We can only provide designs based on the information you give to us and will have recommended the relevant Cellweb® TRP product according to that information.
6. This guarantee is for the benefit of the landowner of the site from time to time provided that you give us notice of the new owner on any transfer of ownership. We suggest you provide a copy of this guarantee to your solicitor when transferring the property.
7. Where a tree which was intended to be protected by the installation dies and we conclude that this was caused by a failure of Cellweb® TRP then we shall:
 - replace the dead tree with a tree as close to the dead tree (as available generally in the marketplace) as possible subject to a maximum replacement cost of £10,000; and
 - replace the Cellweb® TRP which has failed (but not any other part of the installation where the Cellweb® TRP has not failed) subject to a maximum replacement cost of £50,000.
8. Our total liability to you under the terms of this guarantee shall be limited to our obligations set out above and our liability to you for any other losses you may suffer is excluded to the fullest extent permitted by law. For the avoidance of doubt, we shall have no liability to you whatsoever for any damage to trees or a Cellweb® TRP installation caused by anything reasonably beyond our control, including for instance pollution.

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V. Qualifications

Qualifications:

AA Technicians Certificate 2009
BSc. Heritage Conservation 2ii
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

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

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Protected Trees (2013) Natural Resources Wales; Welsh Government.

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Standing Advice for Ancient Woodland and Veteran Trees (updated 5th November 2018) Natural England & Forestry Commission.