

Arboricultural Report

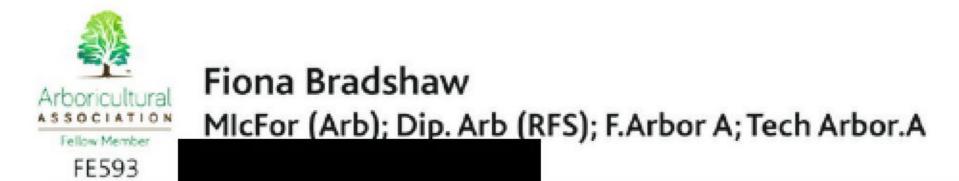
5-7 Jack Straw's Lane Oxford Oxfordshire OX3 0DL

September 2020

Ref: 20130

Prepared by Fiona Bradshaw MICFor; Dip.Arb (RFS); F.Arbor.A; Tech Arbor.A

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1. INTRODUCTION

1.1 Instructions

- 1.1.1 Instructions have been received to carry out an Arboricultural Implication Assessment on the likely impact and effect with regard to the proposal to construct 8 new dwellings on land at 5-7 Jack Straws Lane, Oxford (Appendix 1).
- 1.1.2 This appraisal assesses the impact of the proposal in relation to trees and discusses mitigation measures that may have to be adopted.

1.2. Arboricultural Survey

- 1.2.1 During September 2020, a tree survey was carried out in accordance with British Standard 5837:2012 'Trees in relation to Design, Demolition and Construction-Recommendations' and good arboricultural practice. This is a basic data collection exercise and a record of the trees condition at the time of surveying. The tree survey data can be viewed at Appendix 2, root protection area data at Appendix 3 with the tree constraints plan listed at Appendix 4.
- 1.2.2 A desk top study of information posted on Oxford City Council's website (OCC) details that the site is not located within a Conservation Area. In addition, the website reveals that no Tree Preservation Orders (TPO's) are present on trees within or directly adjacent the site.

1.3 Site Description

1.3.1 The site is a disused commercial builder's yard that is set back from Jack Straw's Lane. Access is via an existing track to the south which is located between No. 3 & No. 9 Jack Straw's Lane. Residential plots are adjacent to the eastern and western boundaries with garages associated with properties at Lynn Close adjacent to the northern boundary. Disused commercial buildings are located centrally within the site with the site roughly rectangular in shape and flat.

1.4 Proposed Development

- 1.4.1 It is proposed to construct 8 new dwellings with the purpose of this report to assist with the design process.
- 1.4.2 All tree numbers referred to in this document relate to the tree numbers annotated on the arboricultural implication assessment plan.

2. ARBORICULTURAL SURVEY

- 2.1 A total of 12 trees, 6 groups and 1 hedge have been recorded within this assessment. The tree quality is assessed as follows:
 - **U:** Trees that are considered to be of such condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboriculture management. However, if category 'U' trees are placed in an inaccessible location such that concerns over public safety are reduced to an acceptable level, it may be preferable or possible to defer this recommendation.
 - A: Trees of the highest quality and value and are considered to be of such a condition as to be able to make a substantial contribution (e.g. 40 years +).
 - B: Trees of moderate to high value and are considered to be of such a condition as to be able to make a significant contribution (e.g. 20 years +).
 - C: Trees of low quality with an estimated life expectancy of at least 10 years. Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories. Young trees with a stem diameter of less that 150mm should be considered for relocation or replacement through mitigation (e.g. 10 years).

Category A, B & C trees are further divided into sub-categories. These sub-categories carry equal weight and are selected for either arboricultural values, landscape values or cultural values, including conservation. Within the British Standard 5837:2012 it is recommended to record hedge and shrub masses, however in the context of the standard it is not necessary to assess the quality of these or to provide a category classification.

The numbers of trees falling under each classification within the arboricultural survey are as follows:

U: 0 trees

A: 0 trees

B: 2 trees

C: 10 trees, 6 groups & 1 hedge

3. PRINCIPLE ARBORICULTURAL IMPLICATIONS

3.1 Introduction

- 3.1.1 Consideration is given to the significance of the trees identified in the arboricultural tree survey, the constraints that they are likely to pose to any development that may occur, post development implications (if any) and work requirements to trees for reasons of sound arboricultural management in order to facilitate the development (BS5837:2012 Section 5.4).
- 3.1.2 This appraisal assesses the impact of the potential to re-develop the site in relation to the trees and discusses mitigation measures that may have to be adopted. The following documents have been provided by the Client:
 - Site Location Plan
 - Proposed Site Plan
- 3.2 Trees
- 3.2.1 The trees surveyed are growing along the boundaries of the site with adjacent thirdparty trees and groups also recorded in the tree survey data.
- 3.2.2 The Wildlife & Countryside Act 1981, as amended by the Countryside Rights of Way Act 2000, provides statutory protection to birds, bats and other species that inhabit trees. These have the potential to pose additional constraints on the use and timings of works that may occur to trees located at the site. These issues are beyond my expertise and it is recommended that appropriate advice is sort prior to the implementation of any works considered within this report.

3.3 Overview

- 3.3.1 The most noteworthy trees within influencing distance of the proposals are the category 'B' trees. As such the report recommends that due consideration to retain these trees in the event of any re-development is given.
- 3.3.2 The appended arboricultural implications plan (Appendix 5) illustrates the proposals in relation to the tree stock. In addition to pre-development concerns, post development concerns such as debris and concerns of the tree's proximity and juxtaposition to the proposal have also been considered during the design process.
- 3.3.3 An assessment of the design on the tree stock reveal that 4 category 'C' trees and 1 category 'C' hedge require removal to implement the proposal.
- 3.3.4 The scheme has undergone a careful design process to ensure an efficient use of the site, whilst safeguarding the continued contribution to the greening of the immediate landscape. On the bases of the appraisal it is considered that the arboricultural impact of the scheme on the tree stock will not result in an adverse impact on the character and appearance of the site or wider landscape.
- 3.4 Impact of the proposal on the tree stock

Overview

3.4.1 A total of 12 trees, 6 groups and 1 hedge have been surveyed for the purposes of this report with no category 'A' trees or category 'U' trees being recorded.

3.4.2 Whilst trees in categories 'A', 'B' and 'C' are all a material consideration in the development process, the retention of category 'C' trees, being of low quality or of only limited or short-term potential, will not normally be considered necessary where they impose a significant constraint on development. Furthermore, BS 5837:2012 makes it clear that young trees, even those of good form and vitality, which have the potential to develop into quality specimens when mature "need not necessarily be a significant constraint on the site's potential".

3.5 Proposed New Dwellings

- 3.5.1 To implement the scheme 4 category 'C' trees (T1, T2, T3 & T12) and 1 category 'C' hedge (H1) will be removed. Category 'C' trees, groups and hedges are assessed as being either of low quality, limited merit, low landscape benefits, no material cultural or conservation value, or only limited or short-term potential; or young trees with trunk diameter below 150mm; or a combination of these.
- 3.5.2 The arboricultural impact assessment plan illustrates that part of the internal access road falls within the root protection areas (RPA) of two offsite category 'C' trees (T9 & T11) and one offsite category 'B' tree (T10). To ensure no adverse impact occurs to these trees this section will be constructed based on a cellular confinement system design (Appendix 6). Any marrying of levels will occur outside the RPA's the trees. It is concluded by incorporating this design into the scheme there will not be any adverse impact to these trees and as such the trees can be successfully retained.

3.6 Construction

- 3.6.1 Careful consideration has been given regarding the buildability of the proposals. The arboricultural impact assessment plans illustrate that sufficient room exists to locate the site compound and contractor parking outside the RPA's of the retained trees.
- 3.6.2 Fence protection will be required for retained trees and will comprise of Heras fencing and will be based on Figure 2 'Default Specification for Protective Barrier' as recommended within the British Standard 5837:2012. Where appropriate the fencing will be braced to withstand impacts.
- 3.6.3 A tree works schedule to facilitate the proposal has not yet been finalised. In the event tree pruning works are required it is concluded that the trees can be pruned to acceptable standards in accordance with British Standard 3998:2010 'Tree Works Recommendations'.
- 3.6.4 New service runs have not yet been finalised however the arboricultural impact assessment plan illustrates that there is sufficient room to route services away from the retained tree stock. In the unlikely event that new services fall within the root protection areas of trees all service installations will be carried out in accordance with the guidelines set out in Section 7.7 of the British Standard 5837:2012.

3.7 Proposed Landscaping

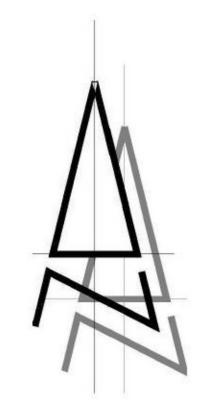
3.7.1 Landscaping will occur in order to mitigate the tree loss and to complement the redevelopment of the site. New landscaping is proposed whereby suitable species for the site will be chosen.

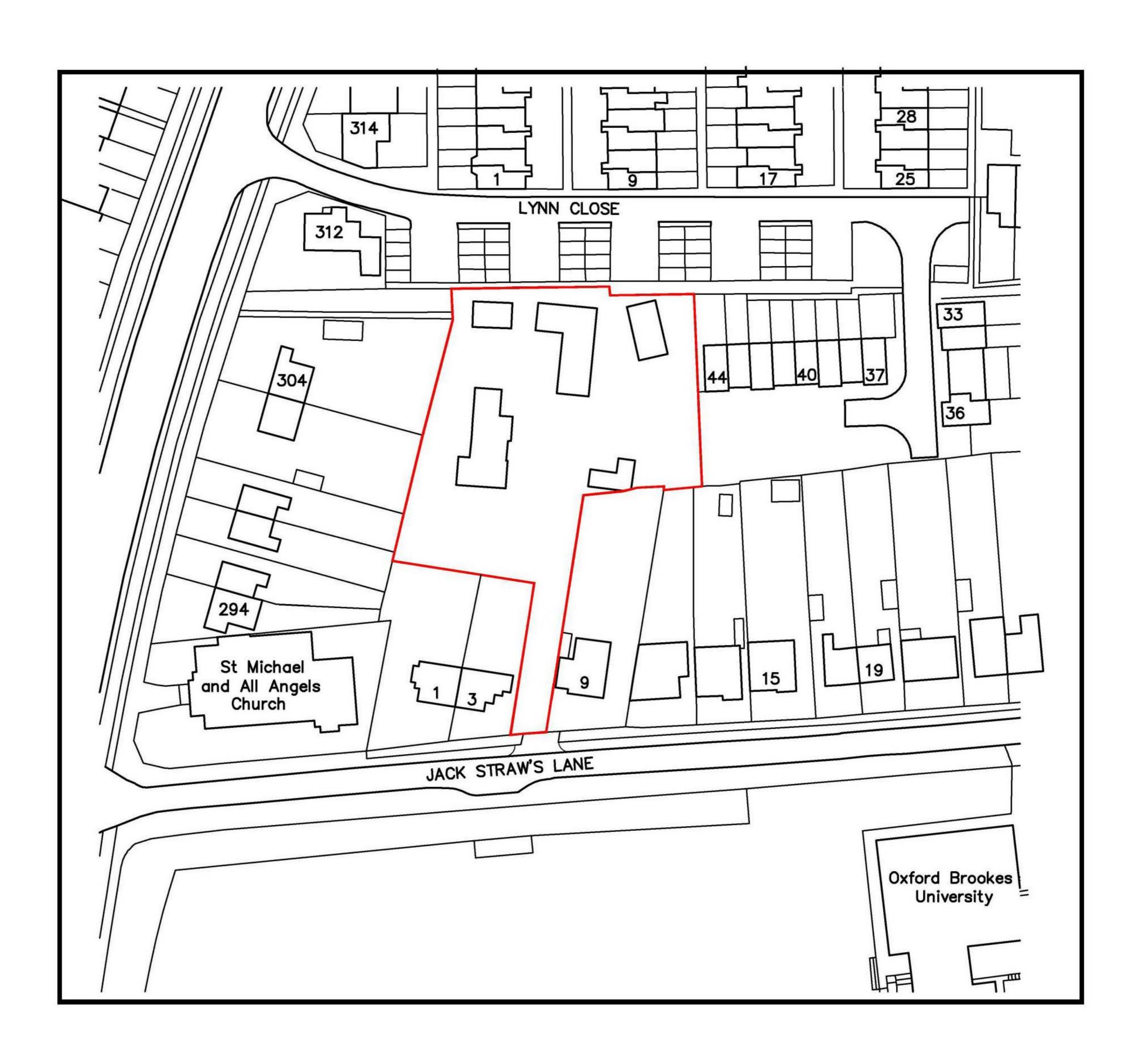
4. SUMMARY

4.2 Conclusions

- 4.1.1 The British Standard 5837:2012 states that there is the need to avoid misplaced tree retention; for example, to attempt to retain too many unsuitable trees on a site may result in excessive pressure on the trees during the development work and subsequent demands for their removal post development. However, where design permits, the retention of lower category trees can be beneficial providing screening and softening to a development and a sense of maturity to a scheme.
- 4.1.2 Careful planning of site operations are recommended to avoid any adverse impact to the retained trees. In order to safeguard the trees through the development it is recommended that a site specific Arboricultural Method Statement is drawn up and implemented.
- 4.1.3 It is concluded that there is an adequate juxtaposition with the retained tree stock and proposal therefore reducing any post development concerns. As such it is regarded that there will not be any future pressure to significantly prune, or to seek permission to remove trees within the site. With further regard to any concerns of debris and seasonal nuisances it is considered that this can be managed by good design and as part of the overall general maintenance of the site.
- 4.2 Post development tree management.
- 4.2.1 Tree owners have a duty of care to maintain and manage their tree stock and it is recommended that regular tree inspections are undertaken by a person competent in arboriculture.
- 4.2.2 Section 8.8.2 of the British Standard: 2012 recommends post development aftercare of trees following the completion of development works. It is recommended the following is considered with regard to post development inspection of retained trees:
 - 1. Trees that grow on a site prior development may, if adversely affected be in decline over a period of several years before they die. This varies due to age, species, condition prior to development, extent of damage during development, soil conditions and climate. It is recommended that regular inspections are undertaken.
 - Where trees are protected by planning controls, it is recommended that the LPA is informed, and necessary agreements obtained prior to any remedial works.
 - 3. Following completion of a development it is recommended that the arboricultural consultant inspects the trees for signs of intolerance to the change of conditions and the effect of the development. There may be a need for additional tree works to those originally specified.
 - 4. Maintenance of newly planted trees is important during the establishment period, of at least two years and it is recommended an appropriate maintenance schedule is included with the Landscaping Scheme.

Site Location Plan





0 20m 40m 60m 80m 100m

Tree Survey Data

KEY TO TREE SCHEDULE

Tree No: Relates to individual trees identified within the Tree Survey Schedule

and Tree Constraints Plan

Species: Common name

Height: Estimated height expressed in meters

Stem diameter of the main trunk taken at 1.5m above ground level or

in accordance with Annex C BS5837:2012.

Height in M of

Canopy: Information of the first significant branch and direction of growth in

order to inform on ground clearance.

Abbreviations: #: Estimated

Ave: Average

A.G.L: Above ground level

SULE: Safe Useful Life Expectancy

Branch Spread: Estimated crown radius expressed in meters, taken for each cardinal

compass point.

Age Class: Y Young - Less than one third of natural life expectancy

MM Middle aged - One to two thirds of natural life expectancy
 M Mature - More than two thirds of natural life expectancy

OM Over mature NP Newly Planted

Physiological

Condition: G Good

F Fair
Poor
D Dead

Notes:

<u>Root Protection Area:</u> This is a layout tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability and where the protection of the roots and soil structure is treated as a priority (detailed in paragraph 3.7 British Standard 5837:2012 'Trees in relation to Construction-Recommendations').

<u>Young trees with a stem diameter of less than 150mm</u>: Whilst the presence of young trees of good form and vitality is generally desirable (i.e those which have the potential to develop into quality mature specimens), they need not necessarily be a significant constraint on the site's potential (detailed in paragraph 4.5.10 British Standard 5837:2012 'Trees in relation to Construction-Recommendations').

le 1 Cascade chart for t	tree quality assessment								
egory and definition C	riteria (including subcategories where approp	riate)		Identification on pla					
es unsuitable for retention (see	e 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 								
	see 4.5.7. 1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation						
Trees to be considered for re	etention								
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodland of significant conservation, historical, commemorative other value (e.g. veteran trees or wood-pasture)						
Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	Mid Blue					
Category C	Unremarkable trees of very limited	Trees present in groups or woodlands, but	Trees with no material	Grey					
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	they do not quality in higher categories	without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	conservation or other cultural value						

TREE NO.	SPECIES	Height in (M)	CALCULATED STEM DIA (MM)	ВІ	RANCH	SPREA	AD	HEIGHT IN M OF CANOPY AGE CLASS	C.	HYS. COND	COMMENTS		BS5837:2012 CATEGORY GRADING
	(Latin)		ST	N	E	S	W		1	풉	Recommendations	EXPE (EST	шО
T1	Cupressus sp	7 318 18 18 18 2 MM F			10 to 20	C2							
T2	Cherry Prunus sp	9	390	4	3	3	2	1n	М	F	Growing in the south west corner of the site. Main branch framework commences at 1m agl. Broad spreading. Not a constraint. No work	10 to 20	C2
Т3	Leyland Cypress X Cupressocyparis leylandii	12	450#	3	3	3	3	GL	ММ	F	Multiple stems arising at close to ground level. Not a constraint. No work	10 to 20	C2
T4	Damson Prunus domestica subsp. Insititia	6.5	256	3	2	1.5	2.2	N/A	ММ	F	Little live foliage low down in canopy. Adjacent to boundary. Not a constraint. Low end of category. No work	10 to 20	C2
T5	Norway Spruce Picea abies	11.5	310	3.5	3.5	3	2.5	1.5	ММ	F	Young middle mature specimen. Due to age long term should not be regarded as a significant constraint. No work	20 to 40	B2
Т6	Atlas Cedar Cedrus atlantica	4	120#	2	2	2	2	N/A	Υ	G	Third party tree. Dimensions estimated. Newly planted. No work Growing beneath BT wires. Low end of category due to location. Outside of wire fence. No work Growing in G6 on boundary. Lower foliage pruned back to boundary line. Unsure of ownership. No work		C2
T7	Damson Prunus domestica subsp. Insititia	4	180	2	2.5	1.5	2	N/A	ММ	F			C2
Т8	Hawthorn Crataegus monogyna	5	160	2	2	3	2	GL	ММ	F			C2
Т9	Norway Spruce Picea abies	13	300#	2	2	2	2	N/A	ММ	F	Third party tree. Adjacent trees obscure ability to fully ID tree. Dimensions estimated.		C2
T10	Horse Chestnut Aesculus hippocastanum	12	350#	3	3	4	1	N/A	ММ	F	Third party tree. Dimensions estimated No work		B2
T11	Copper Beech	14	200#	1	4.5	4.5	1	2.5s	ММ	F	Third party tree. Dimensions estimated. Shaded out by T10. No work Adjacent to access lane. No access but tree within clients ownership. No work		C2
T12	Lawson Cypress Chamaecyparis lawsoniana	8	250#	2	3.5	2	2	GL	ММ	F			C2
G1	Mixed Species	Ave 6	Ave 160	1.5	1.5	1.5	1.5	N/A	ММ	F	Holy and x2 Cypress trees growing adjacent to the boundary. Average dimensions recorded. No work		C2
G2	Western Red Cedar Thuja plicata	Ave 6.5	Ave 150	2	3	2	2	1	ММ	F	Third party group. Foliage overhangs boundary. Regularly maintained. Average dimensions recorded. No work	10 to 20	C2

TREE NO.	SPECIES	Height in (M)	CALCULATED STEM DIA (MM)	BRANCH SPREAD				HEIGHT IN M OF CANOPY	AGE CLASS PHYS. COND	COMMENTS		BS5837:2012 CATEGORY GRADING	
	(Latin)		S. C	N	E	S	W				Recommendations	EXPE (EST	ш -
G3	Leyland Cypress X Cupressocyparis leylandii	Ave 8	Ave 250	2.5	2.5	2.5	2.5	N/A	MM	Third party trees - foliage has been pruned back to the boundary. Average dimensions recorded. Understory of cotoneaster. No work		10 to 20	C2
G4	Leyland Cypress X Cupressocyparis leylandii	Ave 10	Ave 200	2.5	2	3	2	2	ММ	F	hird party boundary trees. Foliage up to 2m has been pruned back to boundary. Iverage dimensions recorded. Io work		C2
G5	Leyland Cypress X Cupressocyparis leylandii	Ave 4	Ave 200	2.5	1	1	1	N/A	ММ	F	irst 8m of group 4m in height then no live foliage observed within the site. Average imensions recorded. lo work		C2
G6	Plum Prunus Domestica	Ave 5	Ave 250	2	2	3	2	N/A	М	F	Frowing on boundary. Low foliage pruned back to boundary line. Average imensions recorded. Unsure of ownership. Semove Ivy		C2
H1	Mixed Species	Ave 5	Ave 75	1	0.5	1	1.5	GL	ММ	F	Boundary screening containing Privet, Cotoneaster, Elder, Lonica, Box. Within the ownership of the client. Below average condition. Not a constraint. Hedge has been bruned back to edge of access. Average dimensions recorded.		C2

Root Protection Area

TREE NO.	SPECIES	NO. OF STEMS	SIEMINA	STEM 1	STEM 2	2-5 STEMS	STEM 4	STEM 5	> 5 STEMS MEAN STEM	ROOT PROTECTION AREA - RPA (RADIUS IN M)	RPA (M²)	LIFE EXPECTANCY (EST YEARS)	BS5837:2012 CATEGORY
			()	(mm)	(mm)	(mm)	(mm)	(mm)	DIA (mm)	((==:::=::::)	
T1	Cupressus	3		170	180	200				3.82	46	10 to 20	C2
T2	Cherry	1	390							4.68	69	10 to 20	C2
T3	Leyland Cypress	1	450							5.40	92	10 to 20	C2
T4	Damson	2		200	160					3.07	30	10 to 20	C2
T5	Norway Spruce	1	310							3.72	43	20 to 40	B2
T6	Atlas Cedar	1	120							1.44	7	10 to 20	C2
T7	Damson	1	180							2.16	15	10 to 20	C2
T8	Hawthorn	1	160							1.92	12	10 to 20	C2
T9	Norway Spruce	1	300							3.60	41	10 to 20	C2
T10	Horse Chestnut	1	350							4.20	55	20 to 40	B2
T11	Copper Beech	1	200							2.40	18	10 to 20	C2
T12	Lawson Cypress	1	250							3.00	28	10 to 20	C2
G1	Mixed Species	1	160							1.92	12	10 to 20	C2
G2	Western Red Cedar	1	150							1.80	10	10 to 20	C2
G3	Leyland Cypress	1	250							3.00	28	10 to 20	C2
G4	Leyland Cypress	1	200							2.40	18	10 to 20	C2
G5	Leyland Cypress	1	200							2.40	18	10 to 20	C2
G6	Plum	1	250							3.00	28	10 to 20	C2
H1	Mixed Species	1	75							0.90	3	10 to 20	C2

Tree Constraints Plan



Arboricultural Impact Plan



Example of a Cellular Confinement System Design



Geosynthetics Cellweb® TRP

Technical Support Package

What is Cellweb® TRP

What is Cellweb® TRP?

Cellweb® TRP is a cellular confinement system specifically designed for tree root protection. The system creates a stable, load bearing surface for traffic or footfall whilst eliminating damage to roots through compaction and desiccation of the soil.

The Cellweb® TRP system comprises of three specific elements; Cellweb®, Treetex™ pollution control geotextile and an infill of clean angular stone. The system has been designed combining the best possible products to create an unparalleled solution for tree root protection applications.

Cellweb® TRP is a no dig solution that ensures that the load placed upon it is laterally dissipated rather than transferring to the soil and roots below. The use of Treetex™ pollution control geotextile allows for drainage and separation whilst preventing contaminants from reaching the roots.

The walls of the cells are perforated and when combined with an infill of clean angular stone this enables free movement of water and oxygen ensuring that supplies to the tree roots are maintained.

What makes Cellweb® TRP different?

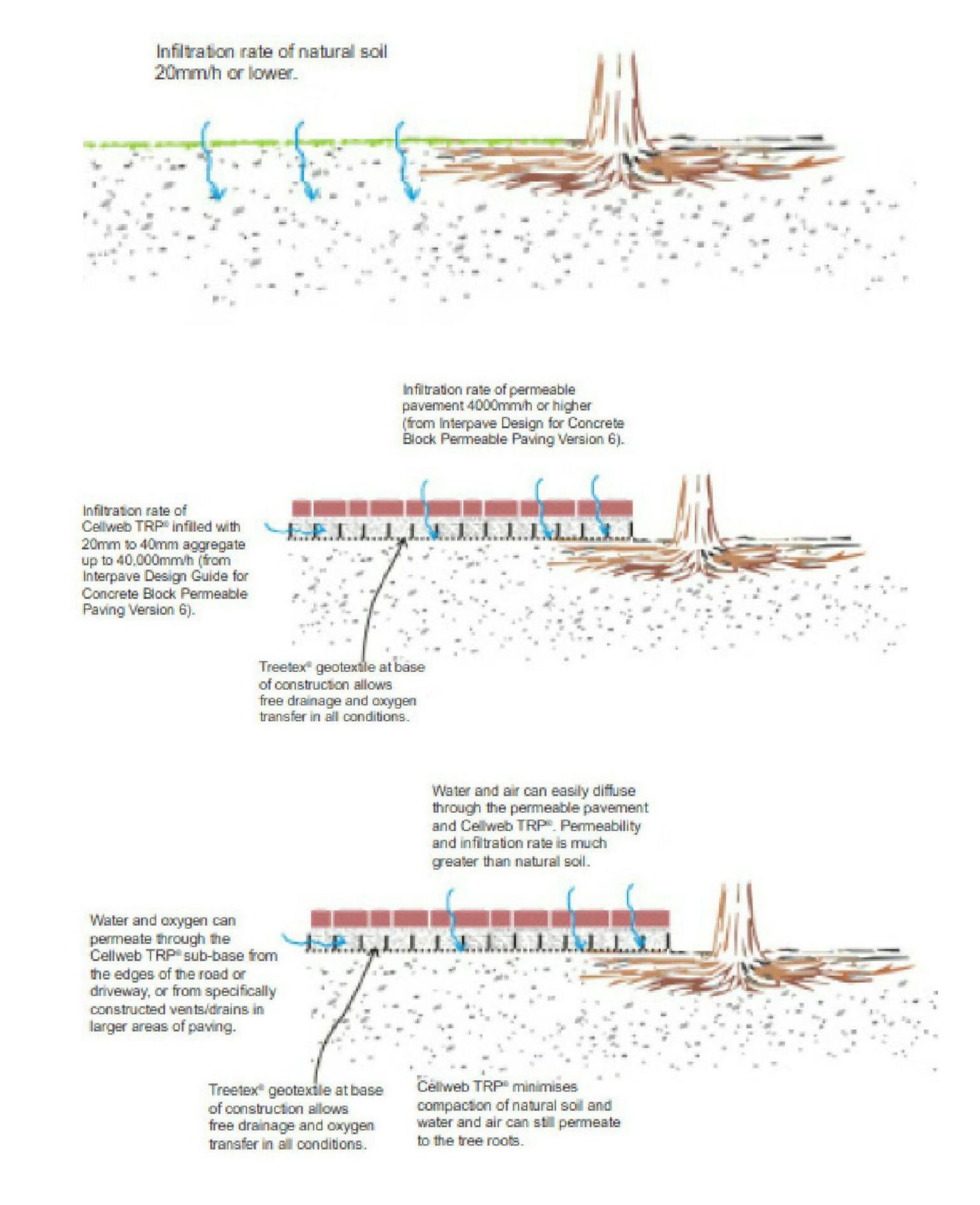
From the drawing board to installation, we are here to help.

We have been supplying the Cellweb® TRP system since 1998 and our technical team have vast experience with tree root protection and the associated legislation.

Delivering complete peace of mind to customers is our number one priority. As part of this customer care package we offer free on site consultations, technical recommendations and on site installation guidance on all projects.

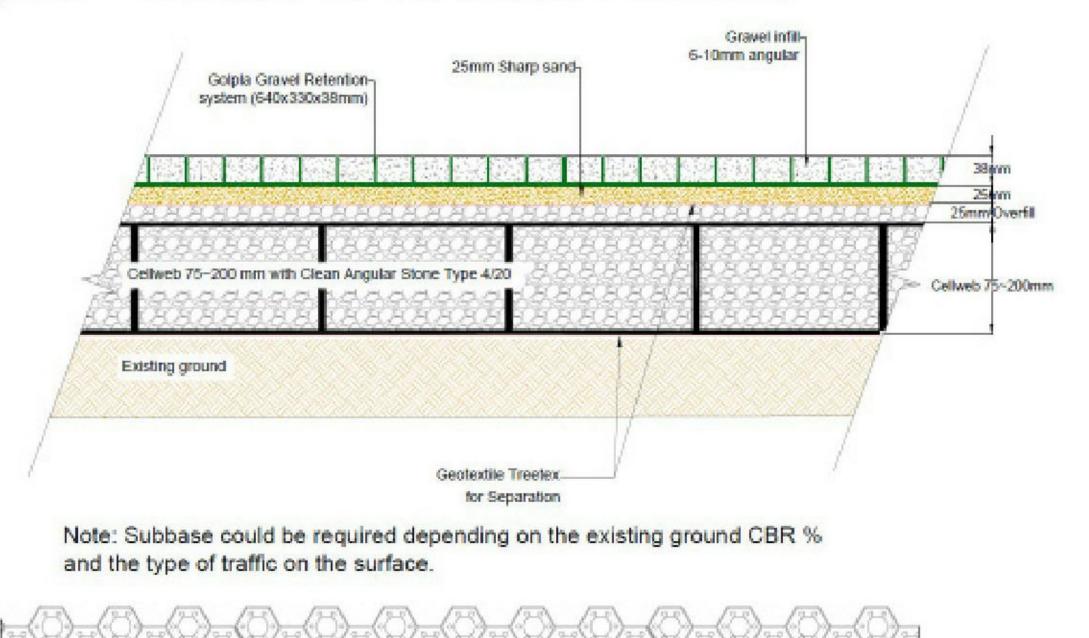
Our in house Engineering Team provide site specific recommendations to ensure the solution used is cost effective and environmentally sound.

For more information on Cellweb® TRP or Geosynthetics Limited please contact our sales office on 01455 617139 or visit www.geosyn.co.uk.



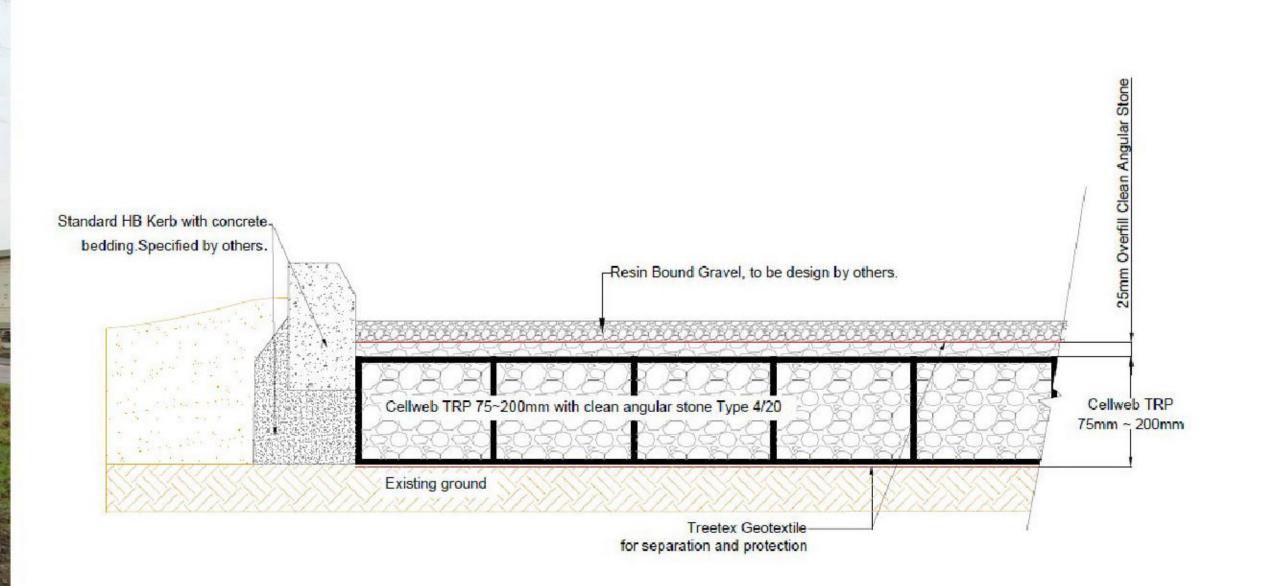
Surfacing Options

Golpla® Grass & Gravel Pavers

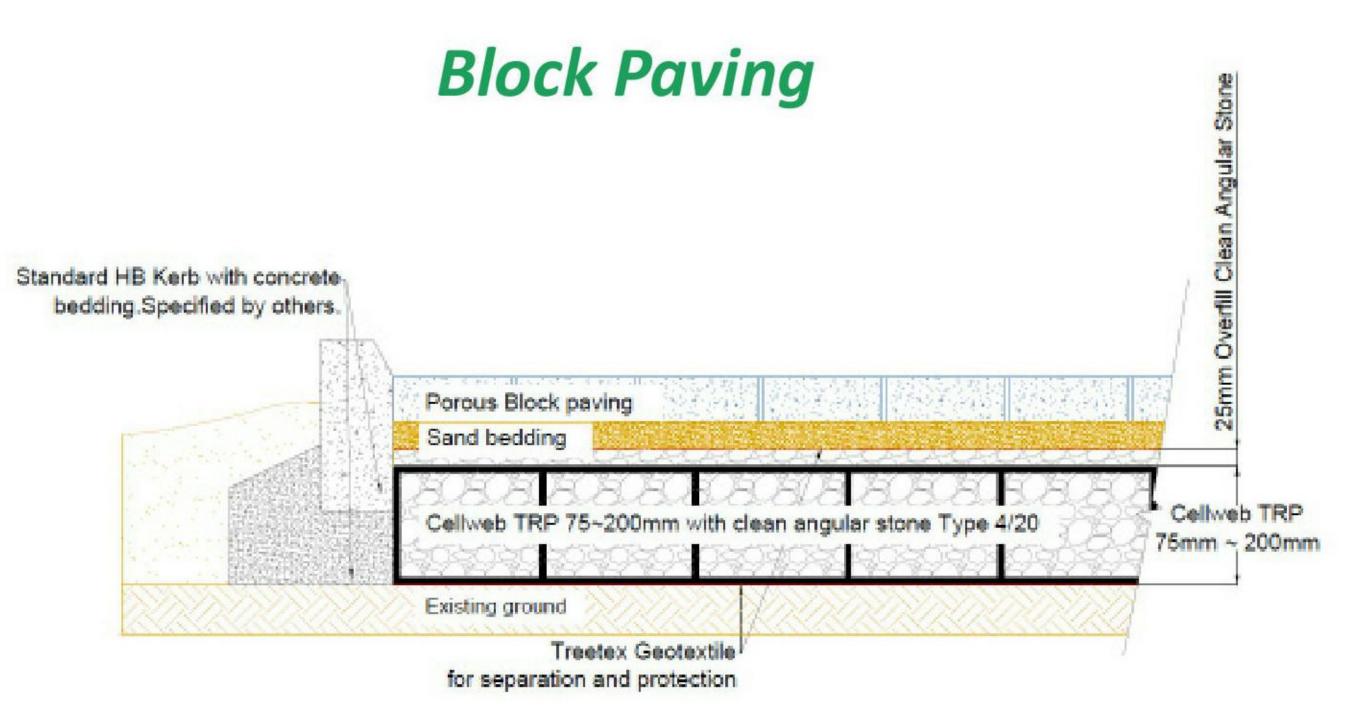


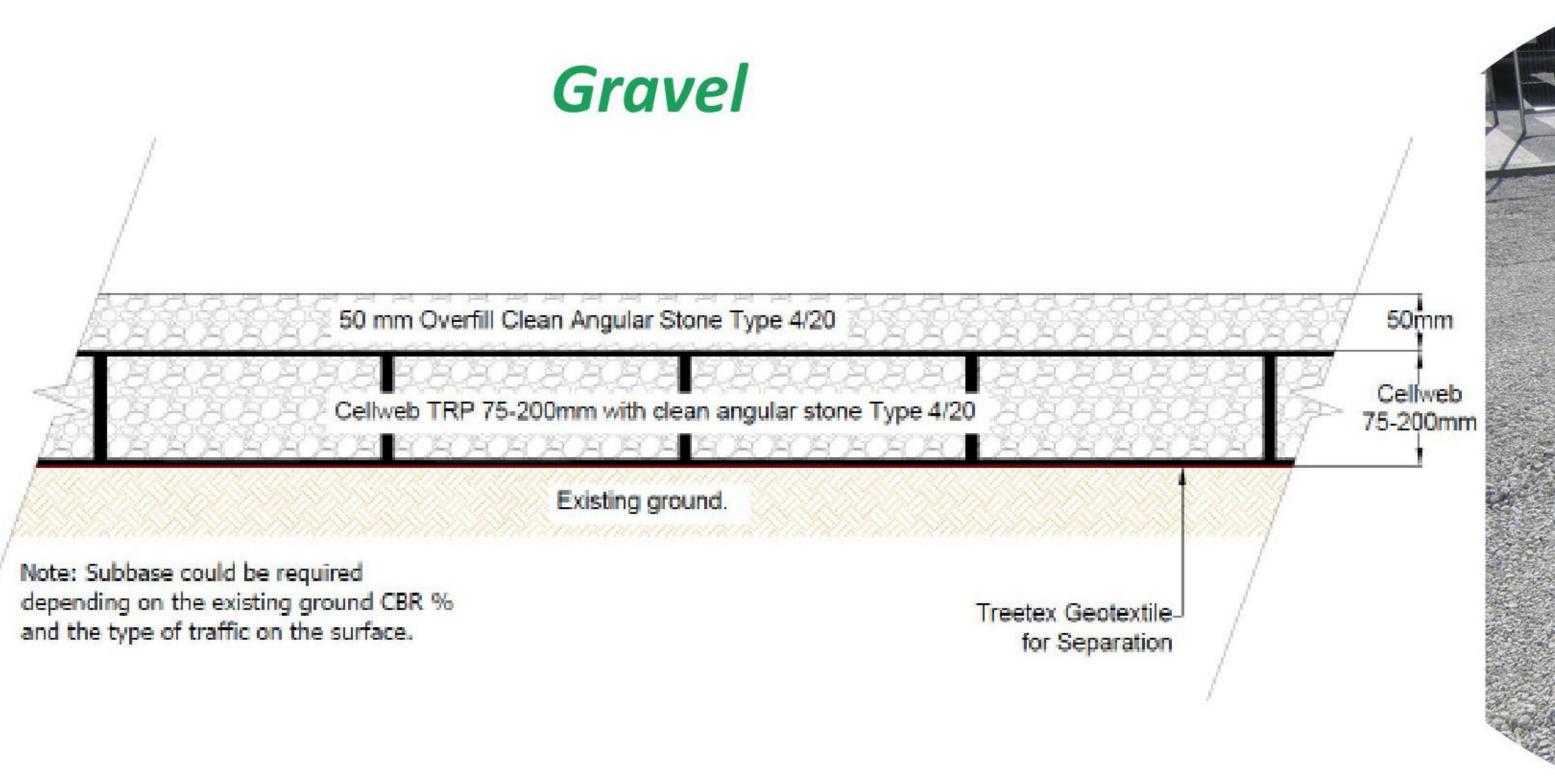


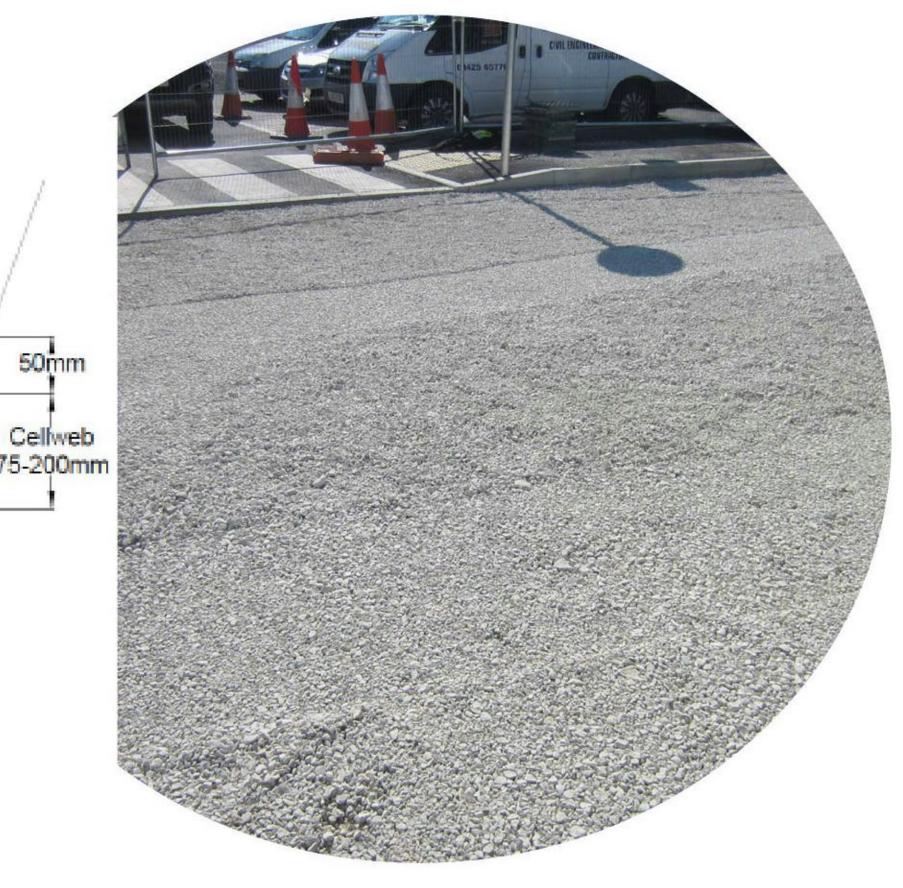
Resin Bound Gravel

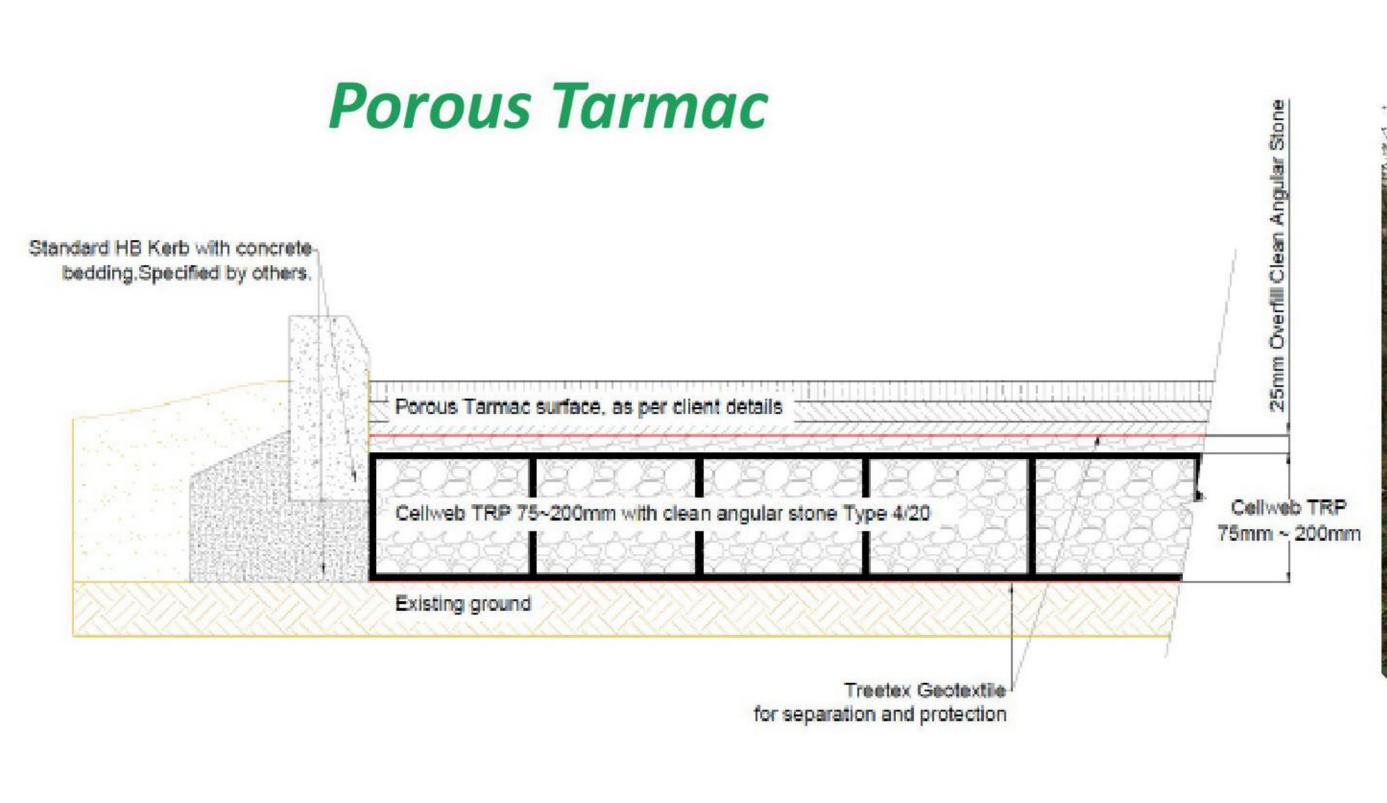








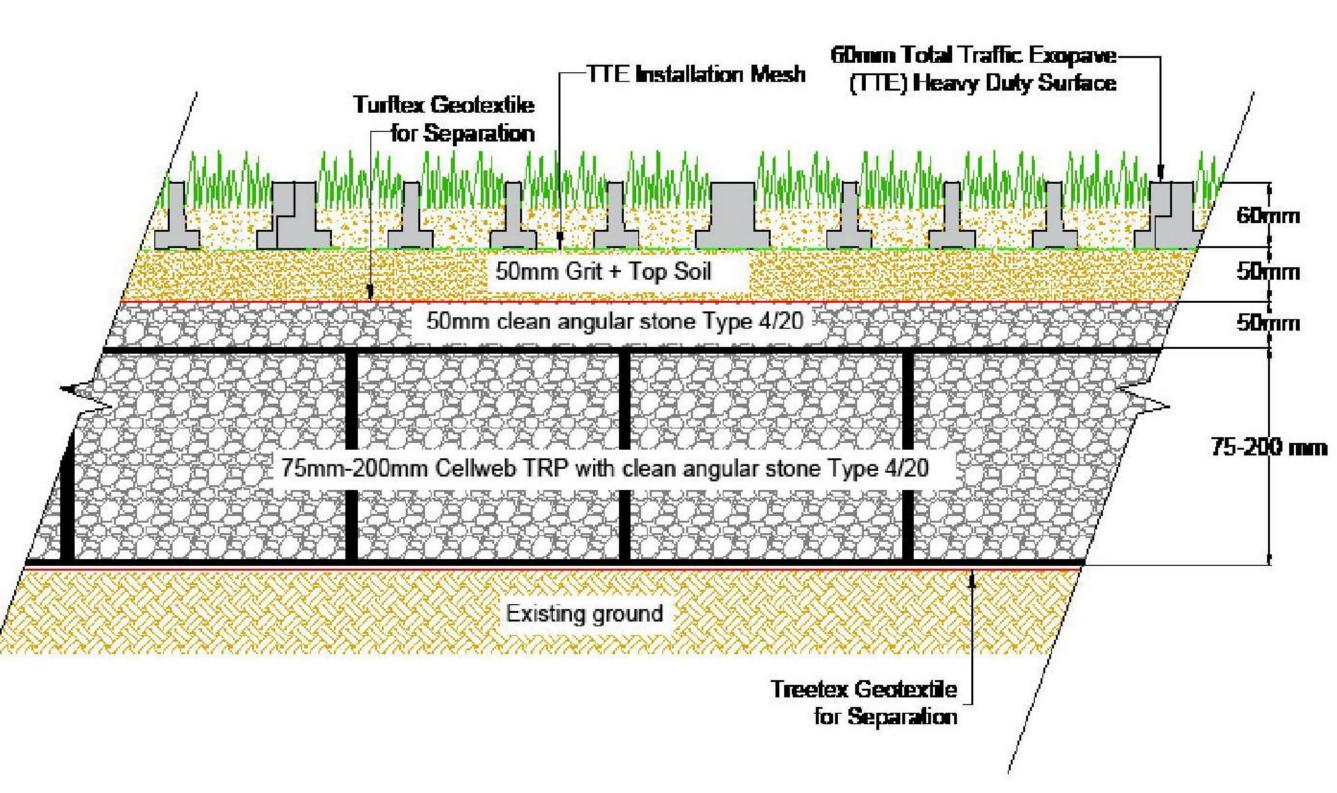






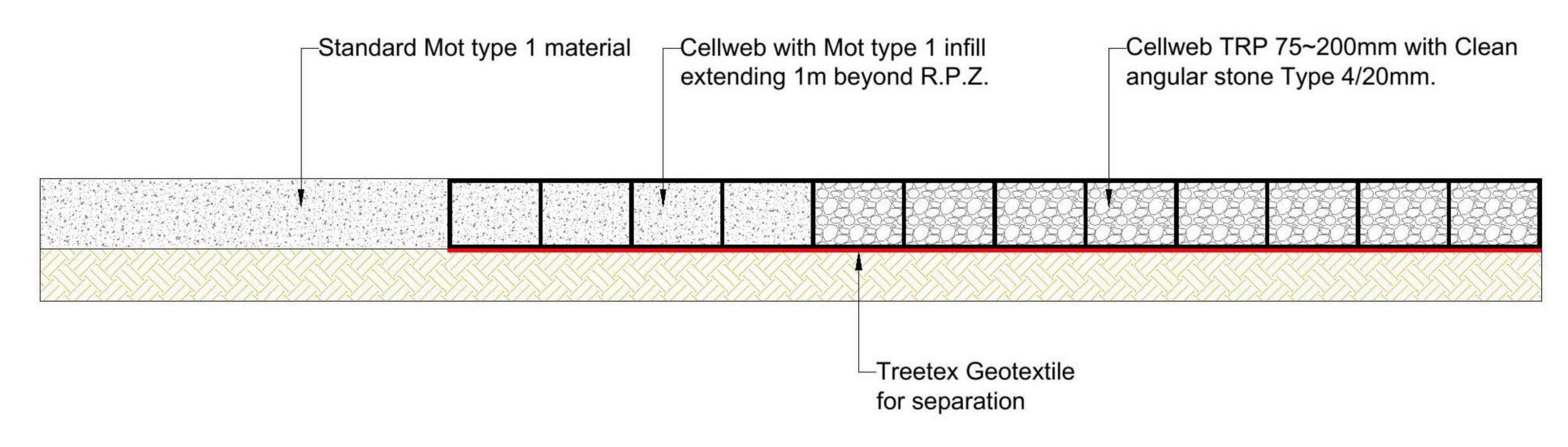


TTE® Heavy Duty Pavers

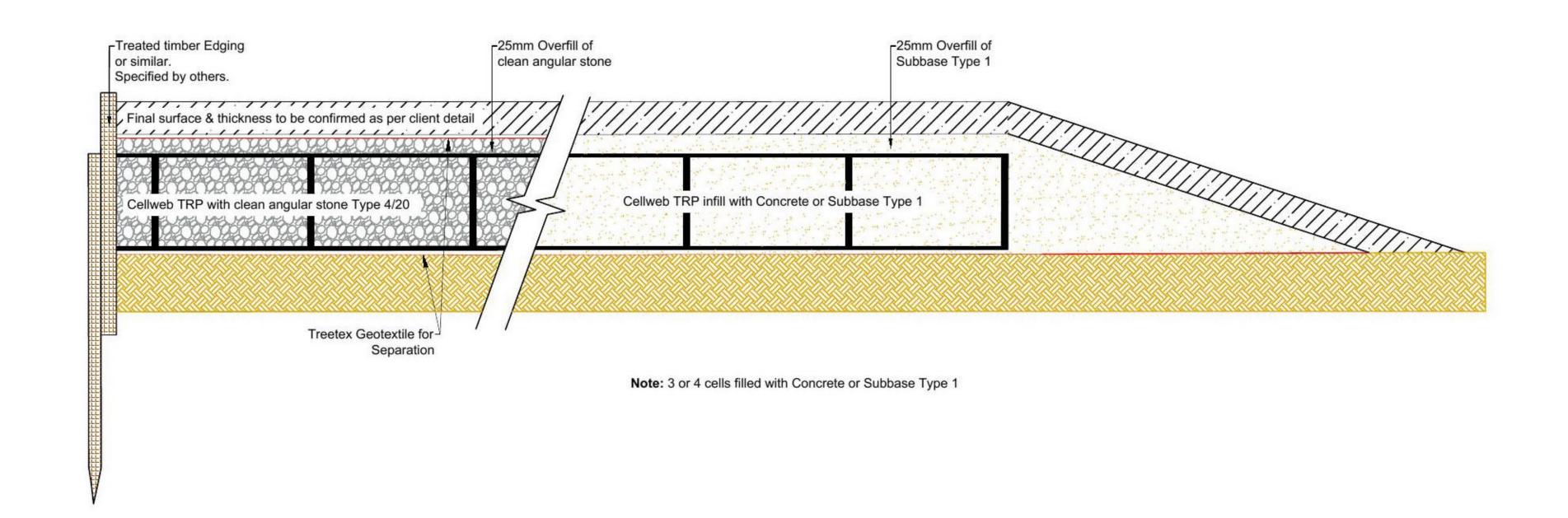


Edging and Transition Details

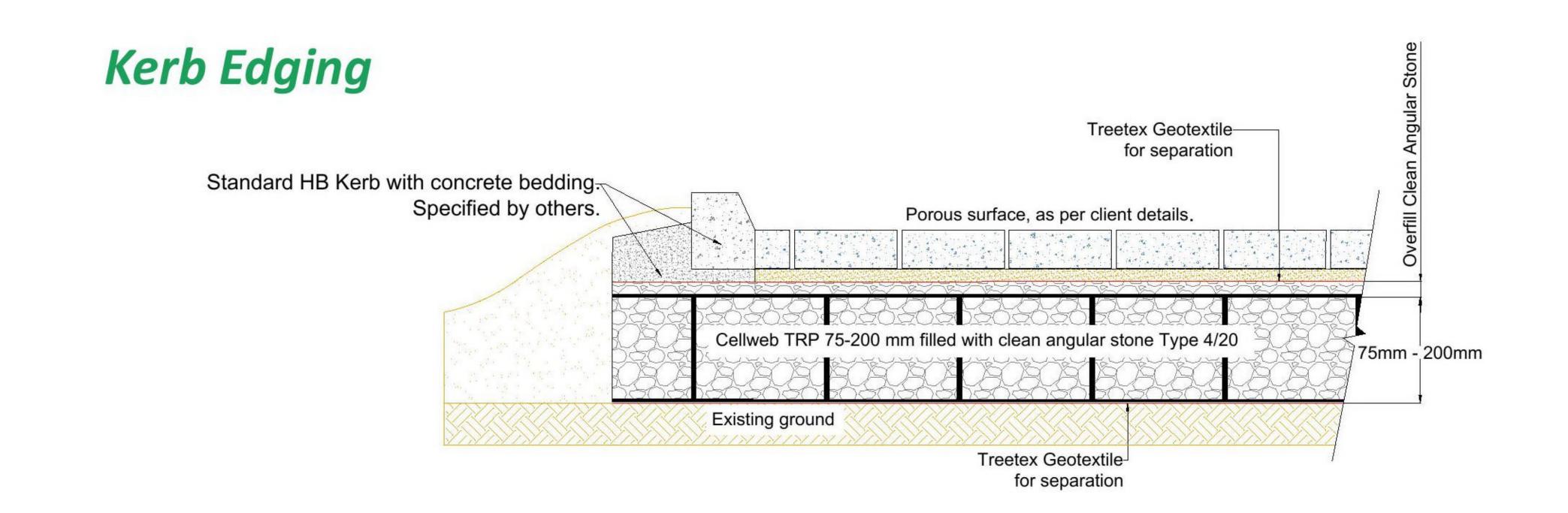
Transition Detail (Flat)



Transition Detail (Ramp)



Treated timber Edging or similar. Specified by others. Porous surface, as per client details. Province Treetex Geotextile for separation Province Treetex Geotextile for separation Province Treetex Geotextile for separation Existing ground. Treetex Geotextile for Separation Treetex Geotextile for Separation



Adopted Roads and Footpaths



Cellweb® Tree Root protection is the UK's market leading tree root protection system and is widely specified for the construction of new hard surfaces within root protection areas in accordance with BS5837.

Difficulties when specifying the system often occur for the construction of public roads, footpaths and carparks where there is a requirement for the local authority to take responsibility for the maintenance of the new structure and formally adopt it.

The following page shows examples of where new hard surfaces constructed using the Cellweb® TRP system have been adopted by local authorities. This document is designed to provide examples to specifiers of the system and local authorities.

This document is designed to be used in conjunction with technical advice and site specific recommendations which are also available free of charge from Geosynthetics Limited.

Qualifications

Fiona Bradshaw

MicFor; RFS Dip Arb; F. Arbor. A; Tech Cert (Arbor. A)

I have over 21 years' experience of arboriculture and I am the principal consultant at Sylva Consultancy. I hold the Royal Forestry Society's Professional Diploma in Arboriculture and the Arboricultural Associations Technicians Certificate. I am a Fellow member of the Arboricultural Association and a professional member of the Institute of Chartered Foresters, of which I am also a registered Consultant.

I have the benefit of both a local authority and private practice background and I am frequently instructed to provide advice and assistance relating to trees and the planning process. I am also experienced at compiling expert reports, providing evidence and also appearing as an expert witness at Public Inquires.

I am committed to my continued professional development which is reflected in my regular attendance of seminars and workshops.