



TD TREE & LAND SERVICES LTD

**Tocher Knowe**

**West Linton**

**ARBORICULTURAL IMPACT ASSESSMENT**

**February 2024**

TD Trees & Land Services

Platform 1,  
Station Road,  
Duns,  
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TD11 3HS

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Changelog	
Date	Comments
23/11/2023	Original version
12/02/2024	T6 and G5 retained, AMS added



## Arboricultural Impact Assessment

### Scope

TD Tree & Land Services Ltd have been instructed to carry out a survey at Tocher Knowe and produce a report on the arboricultural impacts in accordance with British Standard BS:5837 Trees in relation to design, demolition and construction – Recommendations.

This is to provide information to accompany a planning application. Findings from field and desktop surveys are described and the effects that granting planning permission would entail for arboriculture within influencing distance of the development.

### Survey

The survey was undertaken on 23rd November 2023, all observations were made from ground level by a qualified arboriculturalist. The survey methodology is provided in the appendices of this report (B – Survey Method).

A topographical survey was provided which was used to record the position of trees and vegetation, where trees were not shown their locations were estimated using aerial photography and on site observations.

Specimens on third party land or outside of the application boundary were surveyed insofar as was practicable, some trees were present in inaccessible locations. Whilst reasonable effort has been made to ensure accuracy of the data of these areas, it cannot be guaranteed.

### Limitation

Trees are dynamic organisms and therefore due to change, all observations are relevant on the day of inspection.

The information provided within this report relates to the specific development proposals provided and should not be used or interoperated for any other circumstances. This includes but not limited to alternative developments, tree risk management, tree related subsidence or the design of foundations.

This report is valid for a period of 1 year, any alteration in site, any change in the development or of the current circumstances may invalidate this report.

Protection and Designation		
Tree Preservation Orders	No	Confirmed on Scottish Borders Council online mapping on 26/11/2023
Conservation Areas	No	Confirmed on Scottish Borders Council online mapping on 26/11/2023
Third Party Trees	Yes	Third party trees are within influencing distance of the site
Ancient Woodlands	No	Confirmed with NatureScot's online mapping on 26/11/2023
Veteran Trees	No	No records with the Woodland Trust online mapping or evidence on site
SSSI Sites	No	Confirmed with NatureScot's online mapping on 26/11/2023
Hedgerows	No	Confirmed on Scottish Borders Council online mapping on 26/11/2023
Other	-	

# Arboricultural Impact Assessment

## Constraints

This drawing presents an overview of the trees within influencing distance of the proposed development.

### Site

The site is located North of Medwyn Road, up a single track lane. The land is currently holds a residential property with associated pasture land, surrounded by woodland. The area of focus is approximately 2850m<sup>2</sup> in size. The area is centred on grid reference NT 14160 52812.

### Survey results

10 individual trees (T1 – T10); 6 tree groups (G1 – G6); 1 woodland (W1); and 1 hedgerow (H1) were recorded within influencing distance of the site.

The British standard, BS5837:2012 Trees in relation to design, demolition and construction – recommendations, assigns categories to features depending on their qualities, hedgerows are not categorised.

### Categories

**A** - Trees of high quality, typically with a long remaining life expectancy; and with clear and identified merit as specimens, visually, culturally or for conservation.

**B** - Trees of moderate quality, typically with at least a medium remaining life expectancy; with remediable defects only; or low quality but with collective merit.

**C** - Trees of low quality, typically with at least a short remaining life expectancy; unremarkable trees; young or small trees that could be replaced.

**U** - Trees that cannot realistically be retained in the current land use for 10 years; with serious and irremediable defects, pathogens or decline.

All arboricultural information recorded during the site survey is present in the appendices (A – Data Tables). Feature locations, root protection areas, BS:5837 categories and crown spreads are shown in the drawings opposite.

Trees on site are primarily planted in open space in pasture, from young to middle age. Most of the younger recently planted trees have been planted North of the entrance track.

A category A woodland (W1) shrouds the site from the North and West. Multiple preferential roosting features for bats were noted.

Four category A birch specimens are located South of the residential property as part amenity planting. The rest of the trees in the crescent screen are noted as category B for their moderate collective quality.

A category U specimen is noted on third party land, tree T10, an ash, has extensive stem decay and cracks present. It is advised that this specimen is removed.

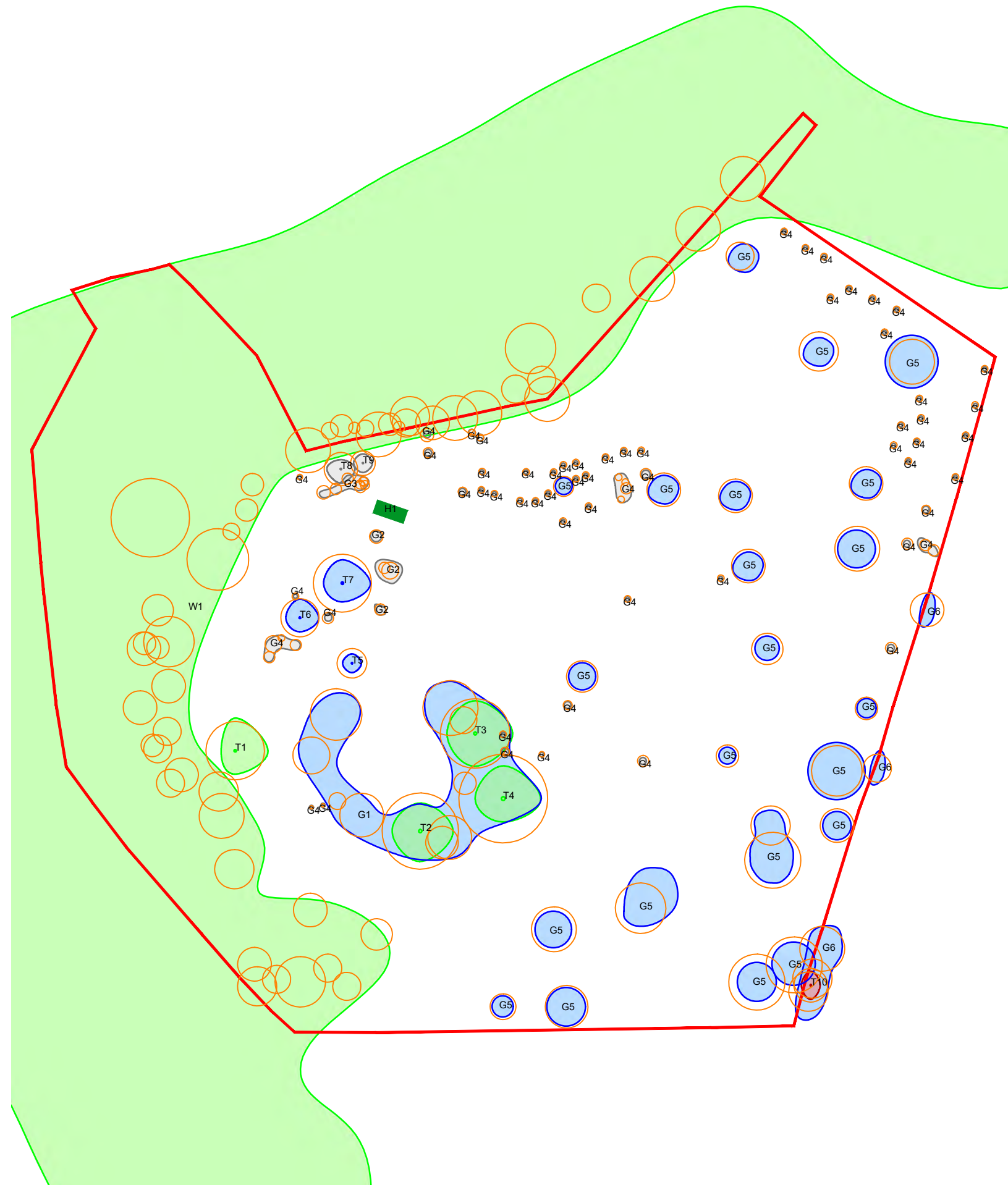
### Root Protection Areas (RPA)

A root protection area is the minimum area around each tree, group or woodland that must be retained and undisturbed to ensure survival.

The RPA's have been calculated in accordance with BS5837 using the diameter of each feature at a height of 1.5m, referred to as diameter at breast height (DBH).

Conditions on site that may have influenced root morphology are steep slopes & foundations. These have been taken into consideration and RPAs have been adjusted to try represent the rooting area more accurately.

*No assessment of protected species has been carried out during the production of this report. Features that may be of interest that were observed during the tree survey are recorded in Appendix A - Data Tables. If an assessment of protected species is required, it should be carried out by a licenced ecologist.*



## KEY

- T1/G1/W1 Trees
- Root Protection Area (RPA)
- Ownership Boundary
- Site Boundary

### Tree Quality Categorisation

*(Based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)*

- Category A (High quality)
- Category B (Moderate quality)
- Category C (Low quality)
- Category U (Unsuitable for retention)
- Hedgerow (Not categorised)

Please see the Arboricultural Survey Data in the Appendix (A - Data Tables)



Platform 1, Station Road, Duns, Berwickshire, TD11 3HS  
Phone: 01361 884186 Email: info@tdtrees.co.uk

Site  
**Tocher Knowe**

Title  
**Drawing 1: Tree Constraints Plan**

Drawing No.  
**231126.001**

Scale  
**1:1000 @ A3**

Date  
**26/11/2023**

Drawn <b>PCL</b>	Checked <b>PR</b>	Approved <b>PR</b>
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# Arboricultural Impact Assessment

## Proposals

This drawing presents the results of an assessment in accordance with BS 5837, including which trees would be removed or pruned in relation to the proposed development.

The proposed development consists of the redevelopment of the residential property and septic tank. The proposals were provided in a .DWG format.

### Proposed tree works

In total 3 individual trees (T6, T8 & T9); 2 tree groups (G2, 4 trees; G3, 8 trees); 1 partial tree group (G4, 11 trees) 0m2 of the woodland; and 1 hedgerow (H1) will require removal to facilitate the proposed development.

One moderate quality trees are noted for removal (T6). All other features are noted as category C or low quality, primarily due to being in poor condition or young and below 150mm in diameter.

One tree, T6, requires pruning to facilitate 2m to the development.

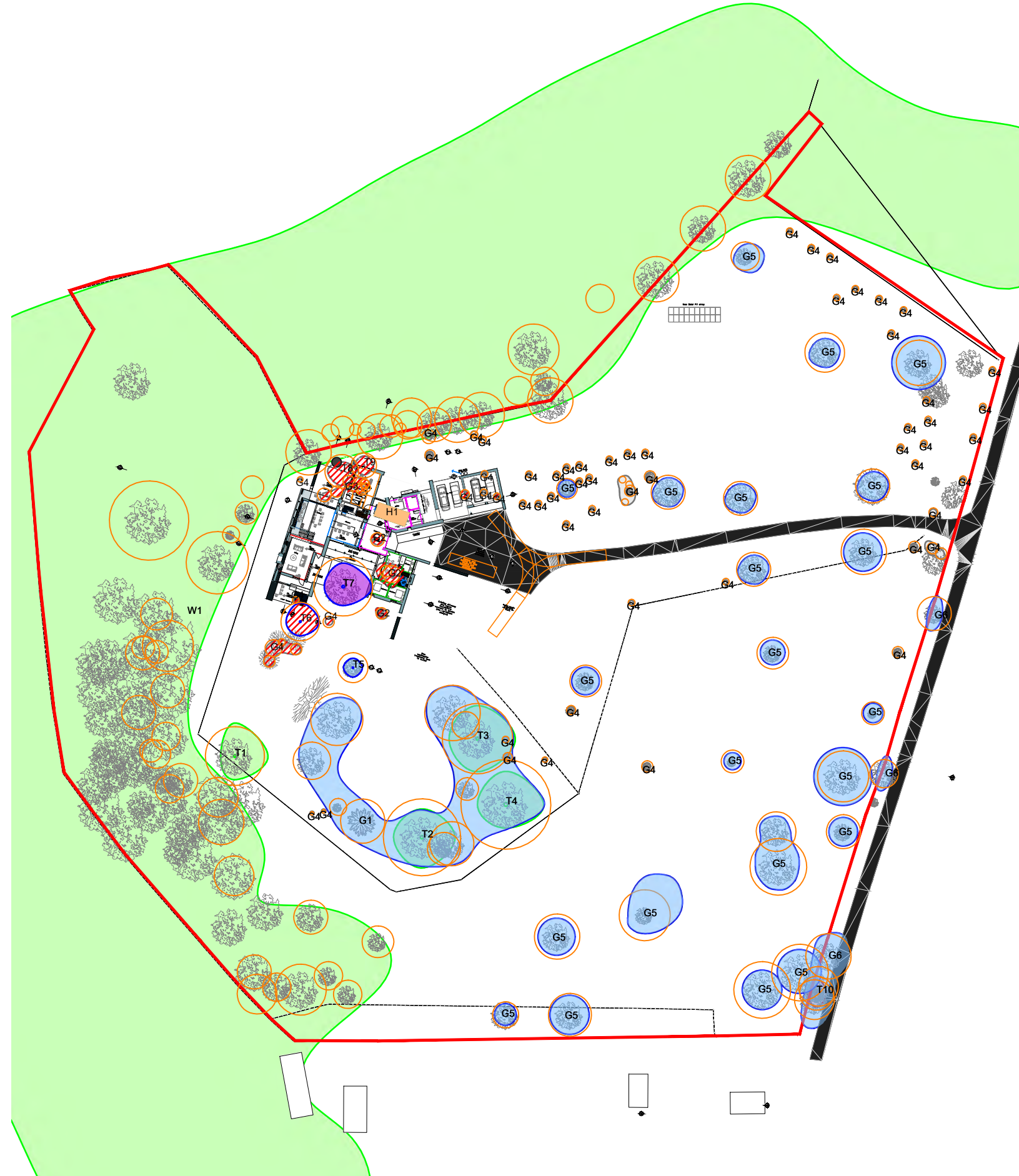
### Effects on designated or protected features

Trees are a material consideration and the quality of trees, related planning policies, and the presence of any protected status or designation is likely to be considered by the local planning authority when determining a planning application.

The removal of trees, without mitigation, constitutes an adverse effect. Each development or program is encouraged by the government guidance in the Scottish National Policy Framework (NPF4) to minimise impacts on and provide net gains for biodiversity.

- Tree preservation orders (TPO) - N/A
- Conservation area (CA) - N/A
- Ancient woodland - N/A
- Veteran trees - N/A
- Sites of Special Scientific Interest (SSSI) - N/A
- Hedgerows - N/A

In consideration to the protections and designations, there are no adverse effects that cannot be mitigated or offset. The local planning authority may determine the level of mitigation required and will evaluate the proposed development, including any proposed mitigation measures, in consideration of all relevant local and national planning policies, guidance and tree laws.



## KEY

- T1/G1/W1 Trees
- Root Protection Area (RPA)
- Ownership Boundary
- Site Boundary

### Trees and hedgerow to be retained

- Category A (High quality)
- Category B (Moderate quality)
- Category C (Low quality)
- Category U (May be retained for habitat value)
- Hedgerow (Not categorised)

### Trees and hedgerow proposed works

- Trees to be removed
- Hedgerow to be removed

Please see the Arboricultural Survey Data in the Appendix (A - Data Tables)



Platform 1, Station Road, Duns, Berwickshire, TD11 3HS  
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Site  
**Tocher Knowe**

Title  
**Drawing 2: Tree Works Plan**

Drawing No.  
**120224.001**

Scale  
**1:1000 @ A3**

Date  
**12/02/2024**

Drawn <b>PM</b>	Checked <b>TW</b>	Approved <b>PM</b>
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# Arboricultural Impact Assessment

## Tree Protection & Mitigation

### Proposed measures

Protection measures described in this section must be observed, implemented and maintained to avoid a breach of planning.

### Prior to Starting

The site manager will read, understand and hold responsibility for implementing the protection measures in this document. In addition, a copy of this document will be made available on site for all relevant contractors.

Paul C Lambert, can be contacted on 07773182835, if required to assist with the correct interpretation of this document. With request, an inspection of the tree works and tree protection measures can be carried out.

An Arboricultural Contractor will undertake tree works shown in this document in accordance with BS3998:2010 Tree work- recommendations.

Tree protective fencing and ground protection will be implemented as shown in the drawing opposite. The specification for tree protective fencing and ground protection will be as shown in Appendix C. Ground protection areas may be used by light machinery.

The site manager will inspect and verify the correct installation of tree protective measures and maintain such, keeping a photographic record. The tree protective measures will not be removed or realigned. Access is prohibited within areas of tree protection, this includes but not limited to storage, excavation, level changes and parking unless described in this document or by an Arboricultural Method Statement approved by planning.

### Construction Phase

Works will proceed with care and consideration to prevent accidental damage from plant and vehicles.

If major roots (>25mm diameter) are uncovered, works will cease, the roots will be loosely covered with damp hessian, and arboricultural advice will be sought (*please see the contact details above*).

Following completion of all construction works and the removal of vehicles, plant, compounds and materials, the tree protection measures will be removed.

### Recommendations

Arboricultural Method Statement (AMS)

Additional tree protective measures and special construction methods to prevent harm to the retained trees in accordance with BS5837:2012 should be produced in an AMS prior to the commencement of works. The areas of works which are liable to harm retained trees without an AMS are highlighted in the drawing opposite under special mitigation. These areas are noted for cellular webbing (W1, 2 trees North, and T7, ground protection until implemented) and piling under arboricultural supervision (T7 and W1, 1 tree North)

### Planting

The local planning authority may determine the level of tree planting required to mitigate the adverse effects of the proposed development, this may be through on site planting, off site planting or a donation for the LPA to plant and manage the trees for a period of 5 years on the developers behalf.

The maintenance of new planting in accordance with BS 8545:2014 Trees: from nursery to independence in the landscape - Recommendations, should be a requirement.



### KEY

[This drawing must be reproduced in colour]

- T1/G1/W1 Retained trees
- Root Protection Area (RPA)
- Ownership Boundary
- Site Boundary
- Tree Protective Fencing  
(Must be installed prior to commencement of works)
- Ground protection  
(Must be installed prior to commencement of works)
- Special Mitigation  
(Requires Arboricultural Method Statement)



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Site <b>Tocher Knowe</b>		
Title <b>Drawing 3: Tree Protection Plan</b>		
Drawing No. <b>120224.002</b>		
Scale <b>1:1000 @ A3</b>	Date <b>12/02/2024</b>	
Drawn <b>PM</b>	Checked <b>TW</b>	Approved <b>PM</b>

# Arboricultural Impact Assessment

## Arboricultural Method Statement

### Proposed measures

Areas shown in the drawing adjacent require arboricultural method statements (AMS) to allow for works within the root protection areas of retained trees. These measures will be put in place to prevent damage to retained features.

Protection measures such as tree protective fencing are presented in the tree protection plan (please see drawings XXXXX). All areas noted under special mitigation (magenta), excluding the existing hard standing, are to be covered in ground protection until the special construction techniques are carried out.

### Prior to Starting

The site manager will read, understand and hold responsibility for implementing the protection measures in this document. In addition, a copy of this document will be made available on site for all relevant contractors.

Patrick Murphy, appointed arboricultural Consultant for this site, can be contacted at patrick@tdtrees.co.uk and on 07423 798 752, if required to assist with the correct interpretation of this document. With request, an inspection of the tree works and tree protection measures can be carried out.

### Arboricultural Method Statements

Cellular Webbing with Porous Asphalt or other suitable top layer (Blue Text)

The proposed terrace noted within the root protection areas of retained trees will require cellular webbing. Please see drawing CW1.RPA.211023 for the Arboricultural Method Statement for the application of Cellular Webbing.

Temporary Ground Protection (Orange Text)

For the duration of the construction, certain areas within the RPAs of retained trees will need to be accessed. To avoid soil compaction within these areas, a suitable temporary ground protection will be erected prior to construction commencing for the full duration of the construction phase. This protection may consist of, eg. a layer of 100-150mm wood chip with 20 - 25mm thickness plywood boards on top for pedestrian traffic only.

Piling Within an RPA (Red Text)

The foundations of proposed structures are noted within root protection areas. Therefore trenching and traditional foundations will not be suitable, these locations will require piled foundations to prevent excessive root loss & structural instability of retained trees. Please see drawing PI.RPA.231112 for the Arboricultural Method Statement for 'Piling In Root Protection Areas'.



### KEY

[This drawing must be reproduced in colour]

- T1/G1/W1 Retained trees
- Root Protection Area (RPA)
- Ownership Boundary
- Site Boundary
- Tree Protective Fencing (Must be installed prior to commencement of works)
- Ground protection (Must be installed prior to commencement of works)
- Special Mitigation (Requires Arboricultural Method Statement)



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Site  
**Tocher Knowe**

Title  
**Drawing 4: Tree Protection Plan**

Drawing No.  
**120224.003**

Scale  
**1:1000 @ A3**

Date  
**12/02/2024**

Drawn <b>PM</b>	Checked <b>TW</b>	Approved <b>PM</b>
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## **Appendix A - Data Tables**

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**Surveyor** Mr Paul C Lambert  
**Date** 23<sup>rd</sup> November 2023  
**Locality** West Linton  
**Site** Tocher Knowe

Tree / Group / Wood / Hedge	Nr	Species	Height	Stem Dia.	No. of stems/ individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Height of Lowest Branch	Direction of Lowest Branch	Maturity	Condition	Comments on form, condition, health and significant defects	BS Tree Quality Assess.		Management Recommendations	Estimated Remaining Contribution	Radius of RPA guide circle
															T	G			
T,G,W,H			(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)		Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A	B		Long, Medium, Short, Very Short	(m)
T	1	Downy Birch	12	520	1	7	5	7	3	4	E	Mature	Good	Located at woodland edge; bifurcate at 3.5m; slight asymmetric form and Easterly stem lean; good amenity	A	1		Long	6.2
T	2	Downy Birch	14	680.29	2	6	6.5	7	6	2	S	Mature	Good	Part of tree group G1; noted individually due to being category A; prominent specimen; good condition for age and size	A	1, 2		Long	8.2
T	3	Silver Birch	14	620	1	7	7	8	6	3	S	Mature	Fair	Part of tree group G1; noted individually due to being category A; prominent specimen; minor cavities in old pruning wounds and tear out, bat PRF; asymmetric canopy	A	1, 2		Long	7.4
T	4	Silver Birch	14	791.58	4	7	5	8	6	3	S	Mature	Fair	Part of tree group G1; noted individually due to being category A; prominent specimen; multi stem from base; moderate deadwood observed; good amenity	A	1, 2		Long	9.5
T	5	Rowan	5	264.58	7	2	2	2	2	0.5	W	Middle Aged	Fair	Moderate condition; multi stem at 0.5m; adjacent to water feature; good form	B	1		Long	3.2
T	6	Downy Birch	14	340	1	4	3	4	3	2.5	NE	Middle Aged	Good	Bifurcate at 6m; good form and vigour; slight asymmetric crown	B	1		Long	4.1
T	7	Downy Birch	14	517.4	2	5	4	6	4	1	W	Middle Aged	Good	Twin stem at 1m; pronounced buttresses; minor deadwood observed	B	1		Long	6.2
T	8	Downy Birch	8	296.31	3	2	3	3	3	2	W	Middle Aged	Poor	Stem wounds and decay noted; growing through chicken run fence; bifurcate at 0.5m and 1m	C	1		Short	3.6
T	9	Downy Birch	7	220	1	2	2	2	2	1	SW	Middle Aged	Fair	Squat form; exposed to high winds; fair condition	C	1		Long	2.6
T	10	Common Ash	14	300	1	3	3	2	2	6	N	Middle Aged	Poor	Extensive stem decay; crack noted up stem; tree in poor health; slender form	U		Fell	Very Short	0.0
G	1	Birch species, Maple species, Spruce species, Willow species	5 to 14	150 to 792	12							Middle Aged	Mixed	Crescent shaped group; shelter feature; moderate condition generally; three specimens that were category A have been noted individually	B	1, 2		Long	Refer to Drawing



G	2	Birch species, Wild cherry, Willow species	2 to 5	100 to 150	4						Young	Fair	Young trees within garden area; fair condition; category C due to age and size	C	1, 2		Long	Refer to Drawing
G	3	Poplar species	4 to 5	80 to 100	8						Young	Fair	Group of self sown poplars within chicken run	C	3		Long	Refer to Drawing
G	4	Apple species, Beech species, Birch species, Oak species, Pine species, Poplar species, Rowan, Willow species	0.5 to 2	30 to 100	65						Young	Fair	A combination of self sown and planted trees in open pasture; all young, most with tree guards and stakes present	C	2		Long	Refer to Drawing
G	5	Birch species, Common ash, Common beech, Common hawthorn, Horse chestnut, Rowan, Whitebeam, Willow species	4 to 12	200 to 500	23						Middle Aged	Mixed	Middle aged specimens growing in open pasture, dotted through the landscape; individually category C to B, but as a collective category B, a good environment for long term tree stock	B	1, 2		Long	Refer to Drawing
G	6	Common ash, Sycamore	10 to 14	250 to 350	6						Middle Aged	Mixed	Third party trees located along boundary wall; avenue feature; ash specimen in poor condition	B	2	Fell diseased ash tree	Long	Refer to Drawing
W	1	Alder species, Birch species, Lime species, Poplar species, Rowan, Scots pine, Wild cherry	1 to 20	10 to 600	>250						Mixed Age	Mixed	Woodland strip on bankside; good deadwood habitat; limited to no understorey; bat habitat features such as cavities, ticks and notch holes noted; good amenity; bridge habitat to adjacent woodland blocks	A	2, 3		Long	Refer to Drawing
H	1	Common beech	4	100 to 280	12						Middle Aged	Fair	Beech hedge that appears to have originally planted as a screen then topped; fair condition				Long	Refer to Drawing



## **Appendix B - Survey Method**

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## Survey Method

The survey of trees, tree groups, woodlands and hedgerows is conducted from ground level by a qualified arboriculturalist. Trees are dynamic organisms and therefore due to change, all observations are relevant on the day of inspection. The following details may have been recorded in the surveys Data Tables: -

**Species** – The species of tree/shrub. Typically the common name is given, if further clarification is required a Latin name.

**Height** – The height of individual tree; range of height of a tree group, woodland or hedgerow; recorded in metres.

**Stem Diameter** – Measurement is taken at 1.5 metres above ground level; referred to as diameter at breast height (DBH); recorded in millimetres; multi-stemmed features are taken as an average.

**Number of Stems** – A count of stems occurring below a height of 1.5 metres.

**Crown Spread** – Recorded in metres; the crown spread in the directions North, South, East and West.

**Height of Lowest Branch** – The lowest branch location recorded in metres.

**Direction of Lowest Branch** – The direction of the first significant branch from the point of attachment.

**Maturity** – Recorded as young (in the early stages of maturity), middle aged (established specimen with potential to continue increasing in size) or mature (a specimen that has reached its ultimate size)

**Condition** – An assessment of a tree's physiological and structural health and condition; recorded as poor, fair, good or veteran (Veteran are trees are considered irreplaceable habitats, features with great biological, cultural or aesthetic value)

**Comments** – A brief evaluation and description of the features form, vitality, health, defects or symptoms of ill-health.

### BS 5837 Tree Quality Assessment -

Table 1 Cascade chart for tree quality assessment

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

## Survey Method

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**Root Protection Area (RPA)** – A root protection area is the minimum area around each tree, group or woodland that must be retained and undisturbed to ensure survival; the RPA's have been calculated in accordance with BS5837 using the diameter of each feature at a height of 1.5m, referred to as diameter at breast height (DBH); the RPA is recorded in metres squared and is typically centred on the tree stem, features affecting root morphology may change this.

**Recommendations** - Recommendations for arboricultural works taking into consideration defects, the land use, targets and BS3998:2010 Tree work – recommendations, with no bias toward the proposed development.

**Estimated Remaining Contribution** – The estimated life expectancy as healthy functioning tree suitable for its location, influenced by species and condition at the time of survey; recorded as Long (> 40 years), Medium (20 – 40 years), Short (>20 years), Very Short (>10 Years).

### NOTES:

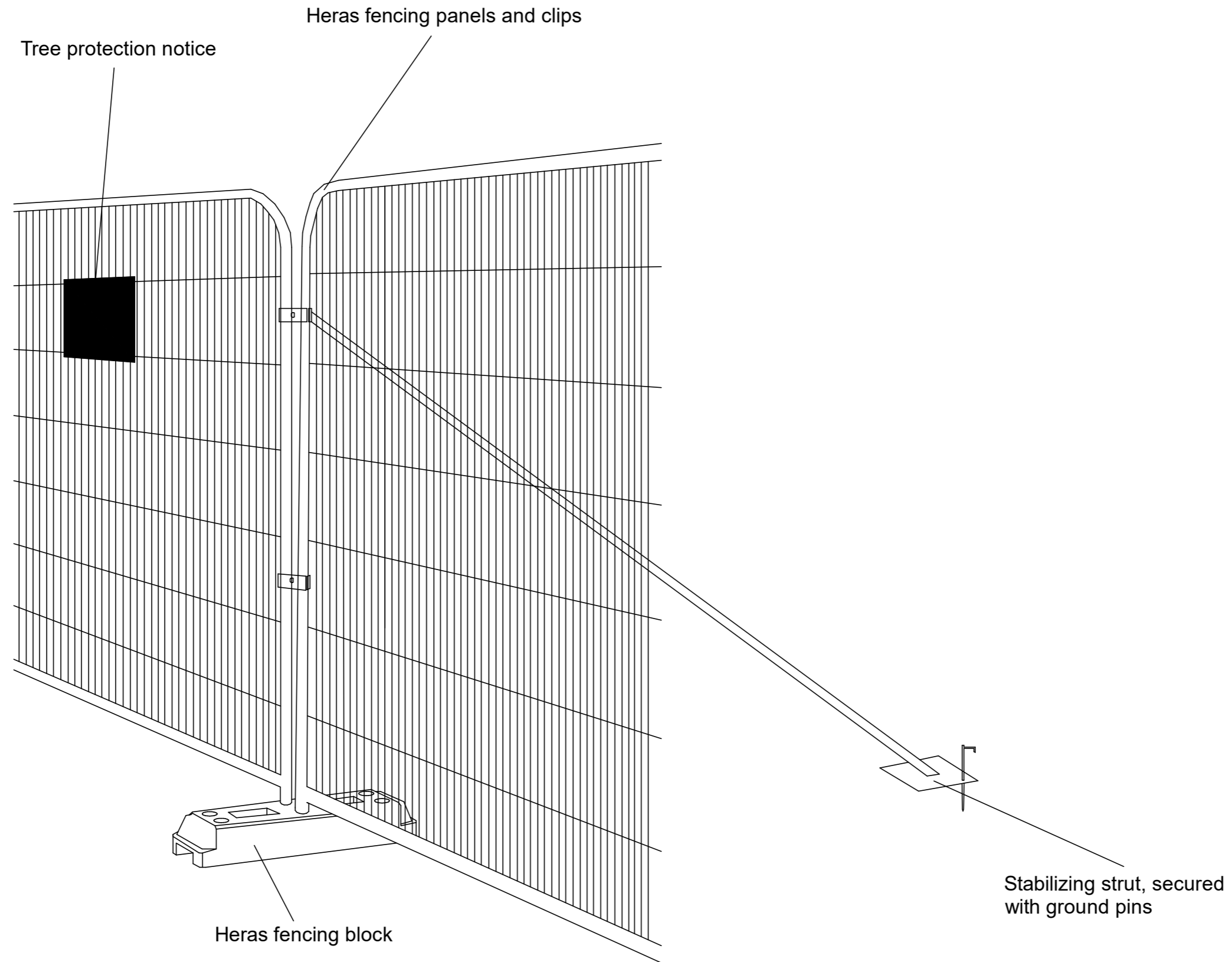
- Soil assessments were not carried out for the purposes of this survey.
  - All young trees are assessed as quality category 'C' this does not pre-determine their retention within a development.
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## **Appendix C - Specification Drawings**

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# Representative Tree Protective Fencing



## Fencing Specification

The purpose of tree protective fencing is to demarcate the construction exclusion zone (CEZ). No materials will be stored within and no vehicles or machinery will be allowed access to the CEZ unless a suitable Arboricultural Method Statement (AMS) is in place. This will prevent damage being caused to retained trees.

For every three Heras fencing panels (10.5m total length; 2m x 3.5m per panel) there will be a tree protection notice fitted in a visible location. The panels will be held together using security Heras fencing clips (12).

The base of the Heras fencing will be stabilized using blocks. Where blocks are not suitable a vertical scaffold pole, driven into the ground, can be used.

Stabilizing struts will be implemented every third panel. The struts will be held down using ground pins (soft ground) or blocks (hard standing).

Title  
Tree Protective Fencing Detail

Drawing No.  
TPF.RPA.211029

Scale  
Not to scale @ A3

Date  
29/10/2021

Drawn  
PCL

Checked  
JEK

Approved  
PCL



# ATTENTION

TREE PROTECTION AREA  
KEEP OUT!



**YOU MAY NOT ENTER THIS AREA OR  
USE IT FOR STORAGE**

**YOU MUST NOT MOVE OR DAMAGE THIS  
PROTECTIVE FENCING**

**IF YOU REQUIRE ACCESS WITHIN THE  
TREE PROTECTION AREA PLEASE ASK  
THE SITE MANAGER TO CONTACT A  
QUALIFIED ARBORICULTURAL  
CONSULTANT**

## Ground Protection Specification

This method statement outlines the parameters within which the application of ground protection will be undertaken in regards to trees.

### General Terms

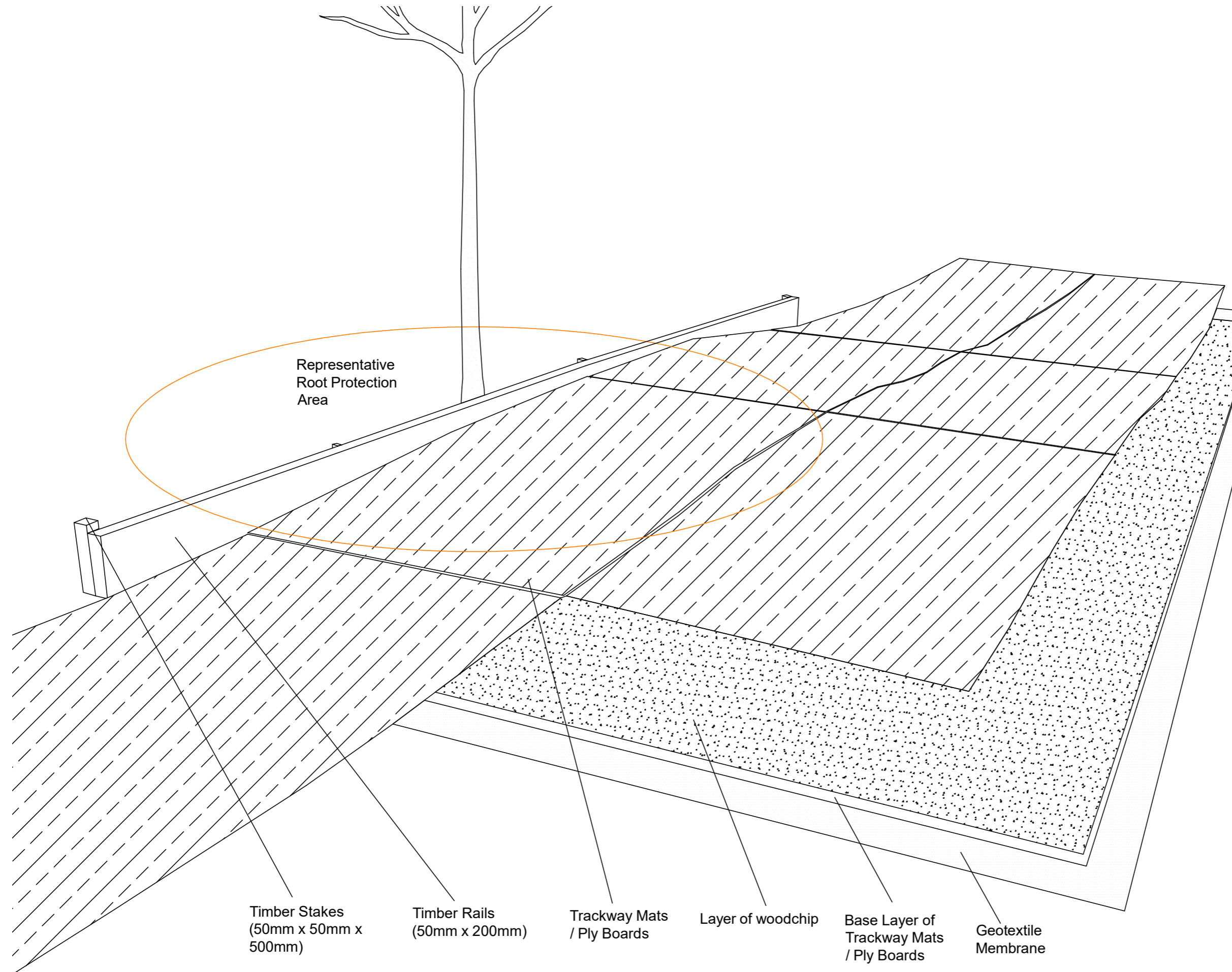
- A. This document will be produced in colour in a A3 format.
- B. The site manager will read and understand this document. It will be the responsibility of the site manager to ensure compliance.
- C. A copy of this document will be made available on site.
- D. Ground protection will be installed prior to any machinery or materials being brought on site.

### Preparation

1. Cut surface vegetation.
2. Mark out the perimeter edge.

### Installing ground protection

3. Using a layer of geotextile material, cover the entirety of the root protection areas.
4. Install the timber edge rails (50 x 200mm), using stakes (50 x 50 x 500mm) at 1.5m spacings.
5. Place a base layer of trackway mats or ply board on top of the membrane.
6. Cover the base layer of mats with 150mm of woodchip.
7. Install the upper layer of trackway mats or ply boards on top of the woodchip.



Timber Stakes  
(50mm x 50mm x  
500mm)

Timber Rails  
(50mm x 200mm)

Trackway Mats  
/ Ply Boards

Layer of woodchip

Base Layer of  
Trackway Mats  
/ Ply Boards

Geotextile  
Membrane

Title  
Ground Protection For Tree Roots

Drawing No.  
GP1.RPA.220710

Scale  
Not to scale @ A3

Date  
10/07/2022

Drawn  
PCL

Checked  
JEK

Approved  
PCL



**GEOWEB® CELL SIZES**

CELL LENGTH WIDTH	NOMINAL CELL AREA IN <sup>2</sup> (MM <sup>2</sup> )	CELL EXPANSION RANGE			
		MINIMUM LENGTH IN (MM)	MINIMUM WIDTH IN (MM)	MAXIMUM LENGTH IN (CM)	MAXIMUM WIDTH IN (CM)
20V	44.8 (289)	8.02 (204)	9.2 (234)	9.65 (245)	11.07 (281)
30V	71.3 (460)	10.25 (260)	11.39 (289)	12.39 (315)	13.77 (360)
40V	187.0 (1206)	16.92 (430)	18.01 (457)	20.66 (522)	21.88 (556)

NOTE: ALL DIMENSIONS ARE NOMINAL AND ARE WITHIN MANUFACTURING TOLERANCES

**GEOWEB® PRODUCT CODE FORMAT  
GWTTVDDWLL + MODIFICATIONS**

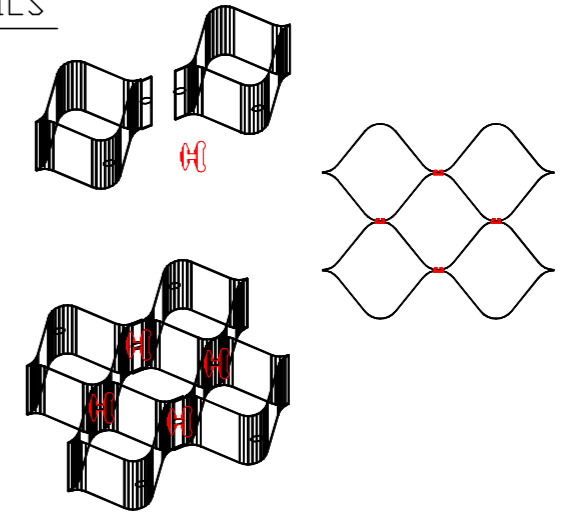
WHERE:  
 TT: CELL TYPE - 20, 30 or 40  
 V: DESIGNATES V SERIES  
 D: CELL DEPTH - 3, 4, 6, 8 or 12"  
 WW: SECTION WIDTH 10, 20V; 8 30V & 5 40V  
 LL: SECTION CELL LENGTH-18, 21, 25, 29 & 34

MODIFICATIONS:  
 P: PERFORATED STRIP  
 S1: SAND COLOR FASCIA STRIP ONLY  
 G1: GREEN COLOR FASCIA STRIP ONLY  
 T: INTEGRAL I-SLOT

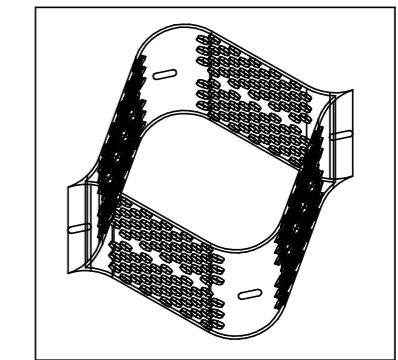
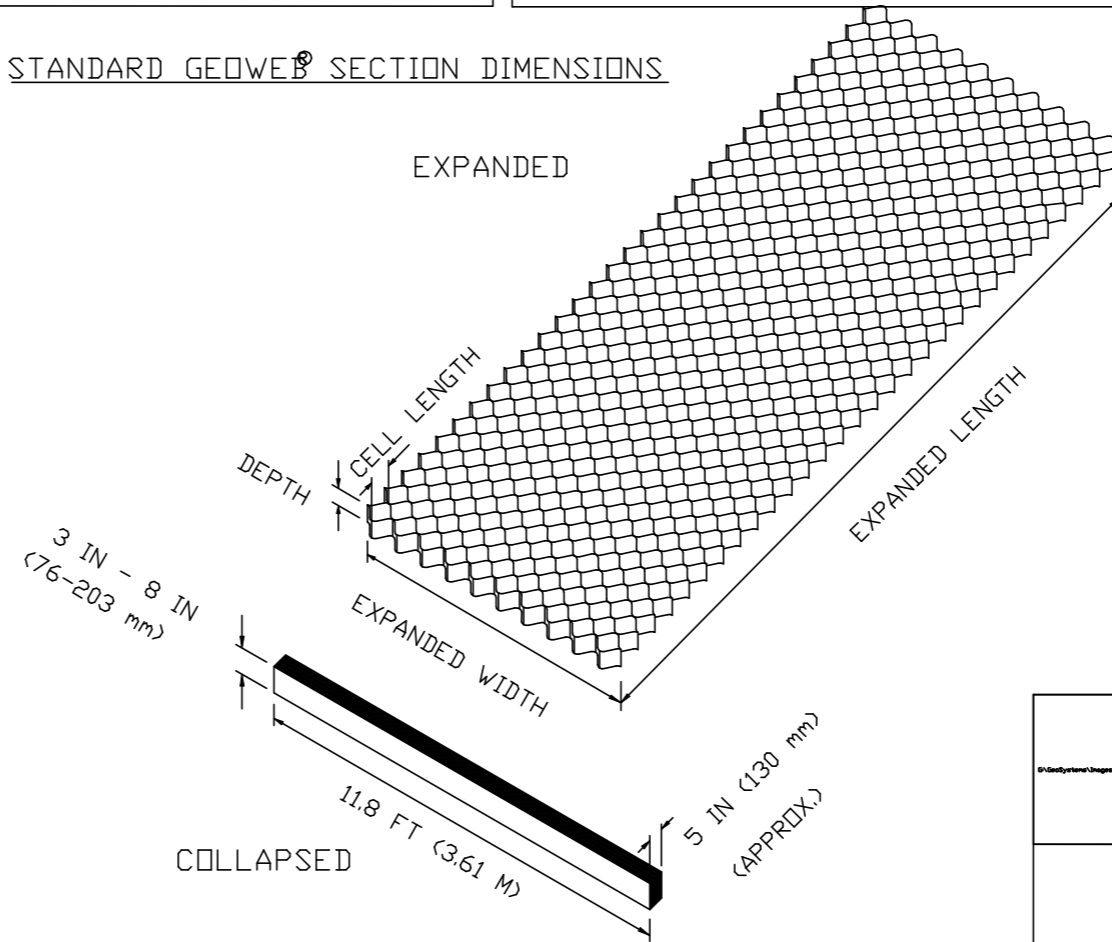
EXAMPLE:  
 GW30V61029PT  
 30V CELL TYPE, 6" DEPTH, 10 CELLS WIDE, 29 CELLS LONG, PERFORATED STRIP WITH I-SLOTS

**ATRA® KEY CONNECTION DETAILS**

- GEOWEB CONNECTION NOTES:
1. THE TOP EDGES OF ADJACENT CELL WALLS SHALL BE FLUSH WHEN CONNECTING.
  2. ALIGN THE I-SLOTS FOR INTERLEAF AND END TO END CONNECTIONS.
  3. THE GEOWEB PANELS SHALL BE CONNECTED WITH ATRA KEYS AT EACH INTERLEAF AND END TO END CONNECTION.



**STANDARD GEOWEB® SECTION DIMENSIONS**



ISOMETRIC VIEW OF PERFORATED STRIP WITH I-SLOT

**GEOWEB® SECTION SIZES**

GW20V - 10 CELLS WIDE										
CELLS LONG	MIN EXPANSION				MAX EXPANSION				NOMINAL AREA	
	LENGTH	WIDTH	LENGTH	WIDTH	LENGTH	WIDTH	LENGTH	WIDTH	ft <sup>2</sup>	m <sup>2</sup>
18	12.0	3.7	9.2	2.8	14.5	4.4	7.7	2.3	112	10.4
21	14.0	4.3			16.9	5.1			131	12.1
25	16.7	5.1			20.1	6.1			156	14.5
29	19.4	5.9			23.3	7.1			181	16.8
34	22.7	6.9			27.3	8.3			212	19.7

GW30V - 8 CELLS WIDE										
CELLS LONG	MIN EXPANSION				MAX EXPANSION				NOMINAL AREA	
	LENGTH	WIDTH	LENGTH	WIDTH	LENGTH	WIDTH	LENGTH	WIDTH	ft <sup>2</sup>	m <sup>2</sup>
18	15.4	4.7	9.2	2.8	18.6	5.7	7.6	2.3	143	13.3
21	18.0	5.5			21.7	6.6			167	15.5
25	21.4	6.5			25.8	7.9			198	18.4
29	24.8	7.6			30.0	9.1			230	21.4
34	29.1	8.9			35.1	10.7			270	25.0

GW40V - 5 CELLS WIDE										
CELLS LONG	MIN EXPANSION				MAX EXPANSION				NOMINAL AREA	
	LENGTH	WIDTH	LENGTH	WIDTH	LENGTH	WIDTH	LENGTH	WIDTH	ft <sup>2</sup>	m <sup>2</sup>
18	25.4	7.7	9.1	2.8	30.8	9.4	7.5	2.3	234	21.7
21	29.6	9.0			36.0	11.0			273	25.3
25	35.2	10.7			42.8	13.1			325	30.2
29	40.9	12.5			49.7	15.1			377	35.0
34	47.9	14.6			58.2	17.8			441	41.0

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<b>GENUINE GEOWEB® SECTION DIMENSIONS</b>			
PRESTO®, GEOWEB®, AND ATRA® ARE REGISTERED TRADEMARKS OF PRESTO PRODUCTS.		DATE JUNE 2013 FILE NAME GWGENIF.DWG	
SCALE NTS	SHEET 1	© 2010 PRESTO GEOSYSTEMS	

# Arboricultural Method Statement (AMS)

This AMS outlines the parameters within which the application of cellular webbing will be undertaken in regards to trees.

## General Terms

- A. This document will be produced in colour in a A3 format.
- B. The site manager will read and understand this document. It will be the responsibility of the site manager to ensure compliance.
- C. A copy of this document will be made available on site.
- D. If major roots (>25mm diameter) are uncovered, works will cease, the roots will be loosely covered with damp hessian, and arboricultural advice will be sought.

## Preparation

1. Remove surface vegetation.
2. A maximum of 30mm of top soil can be removed, unless surface roots are present.
3. Backfill any holes and uneven areas discovered with clean angular stone 4/40mm (BS EN 13242 and 12620).
4. Mark out the perimeter edge.

## Applying membrane and cells

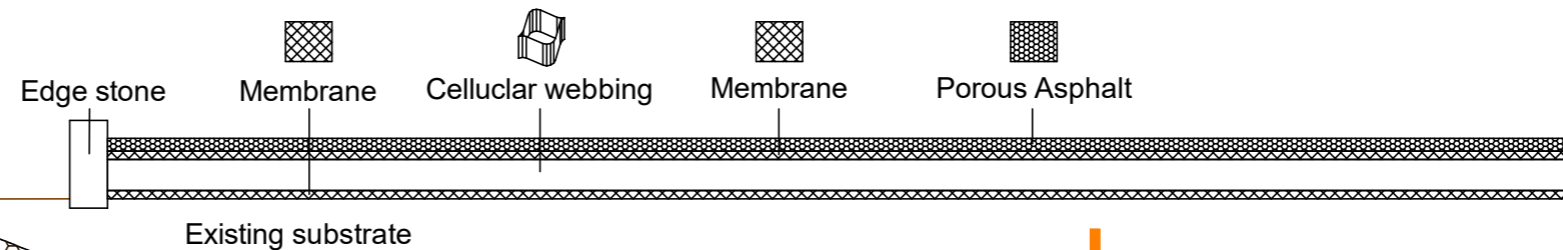
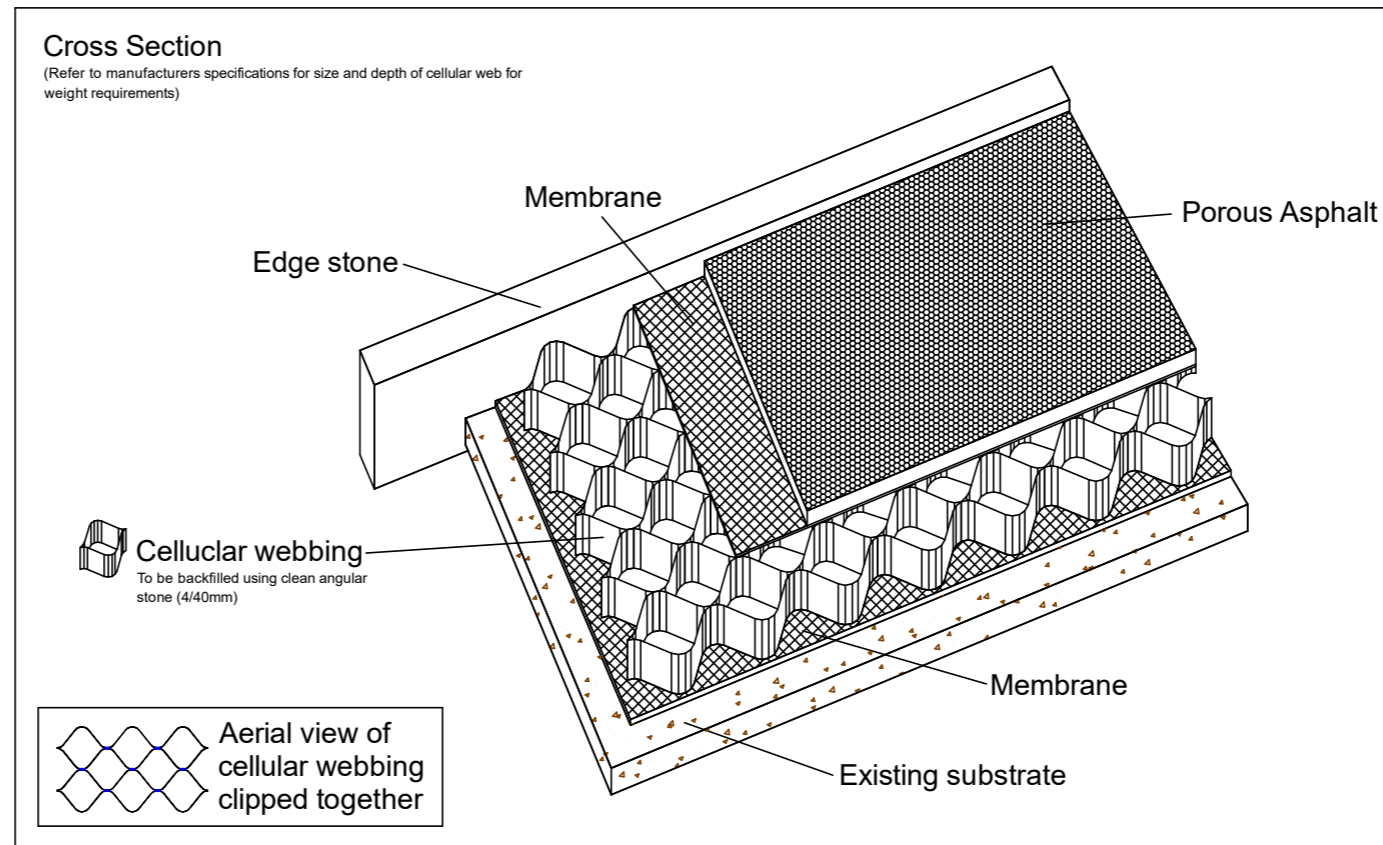
5. Place the base membrane over the works area, overlap sections with a minimum of 250mm. The membrane should be secured by pins roughly every 500mm along the edging.
6. Apply the cellular webbing, clipped together, on top of the base membrane.
7. If required some cells may require cut to shape, to suit the edge.

## Backfilling

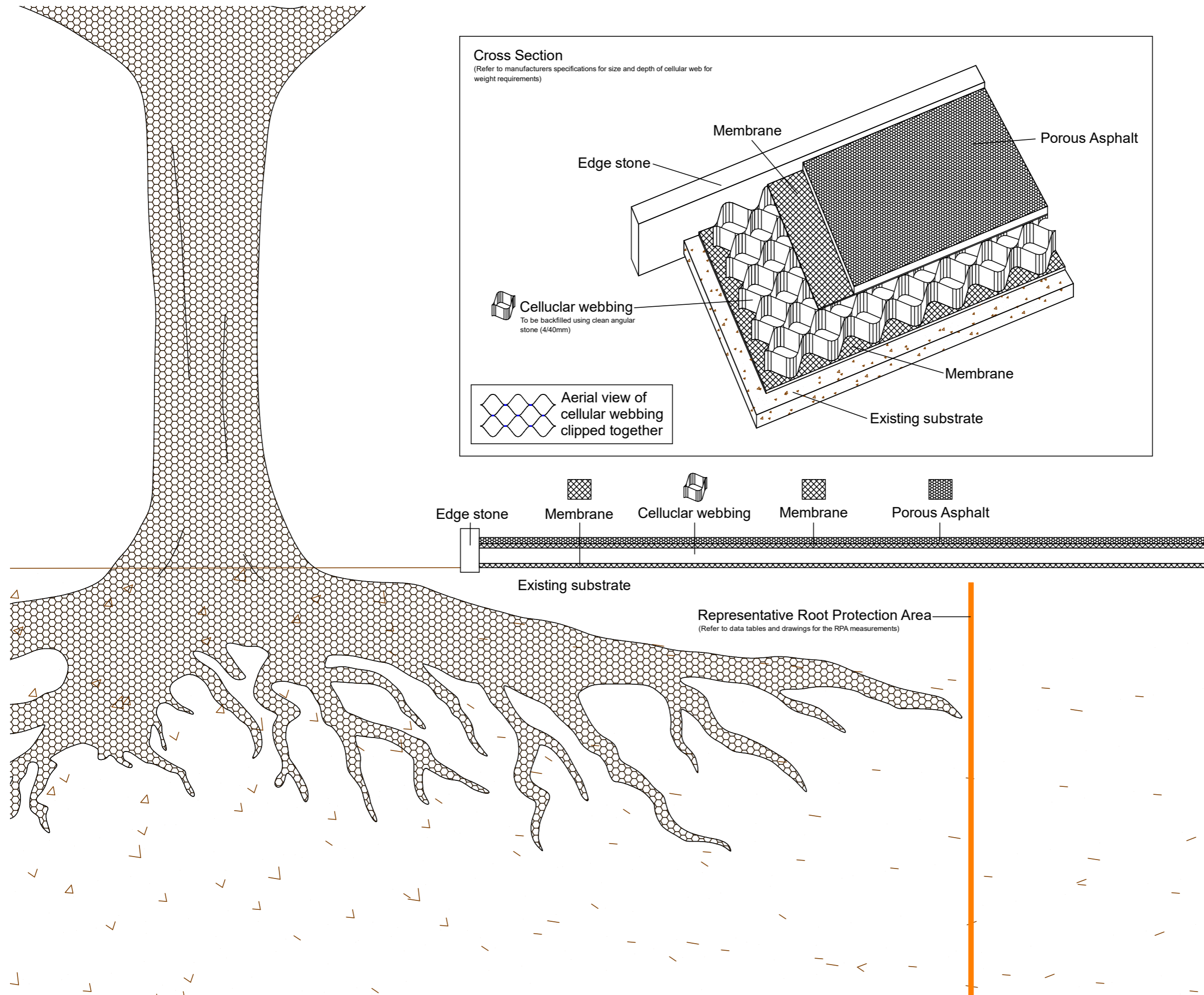
8. Using clean angular stone (BS EN 13242 and 12620) 4/40mm, backfill the cells progressively.
9. Overfill by 25mm approximately to allow the stone to settle in the cells.
10. If using a vehicle, limit the drop height below 1m to avoid cells collapsing during the backfilling process.

## The surface

11. Apply light vibrating compaction to help the stone settle in the cells.
12. Place a second layer of protective membrane over the backfilled cells.
13. Lay and compact (within root protection areas) porous asphalt as per manufacturers guidance; (outside of root protection areas) asphalt as per manufacturers guidance.



**Representative Root Protection Area**  
(Refer to data tables and drawings for the RPA measurements)



Title  
**Cellular Webbing with Porous Asphalt**

Drawing No.  
**CW1.RPA.211023**

Scale  
**Not to scale @ A3**

Date  
**23/10/2021**

Drawn <b>PCL</b>	Checked <b>JEK</b>	Approved <b>PCL</b>
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# Arboricultural Method Statement (AMS)

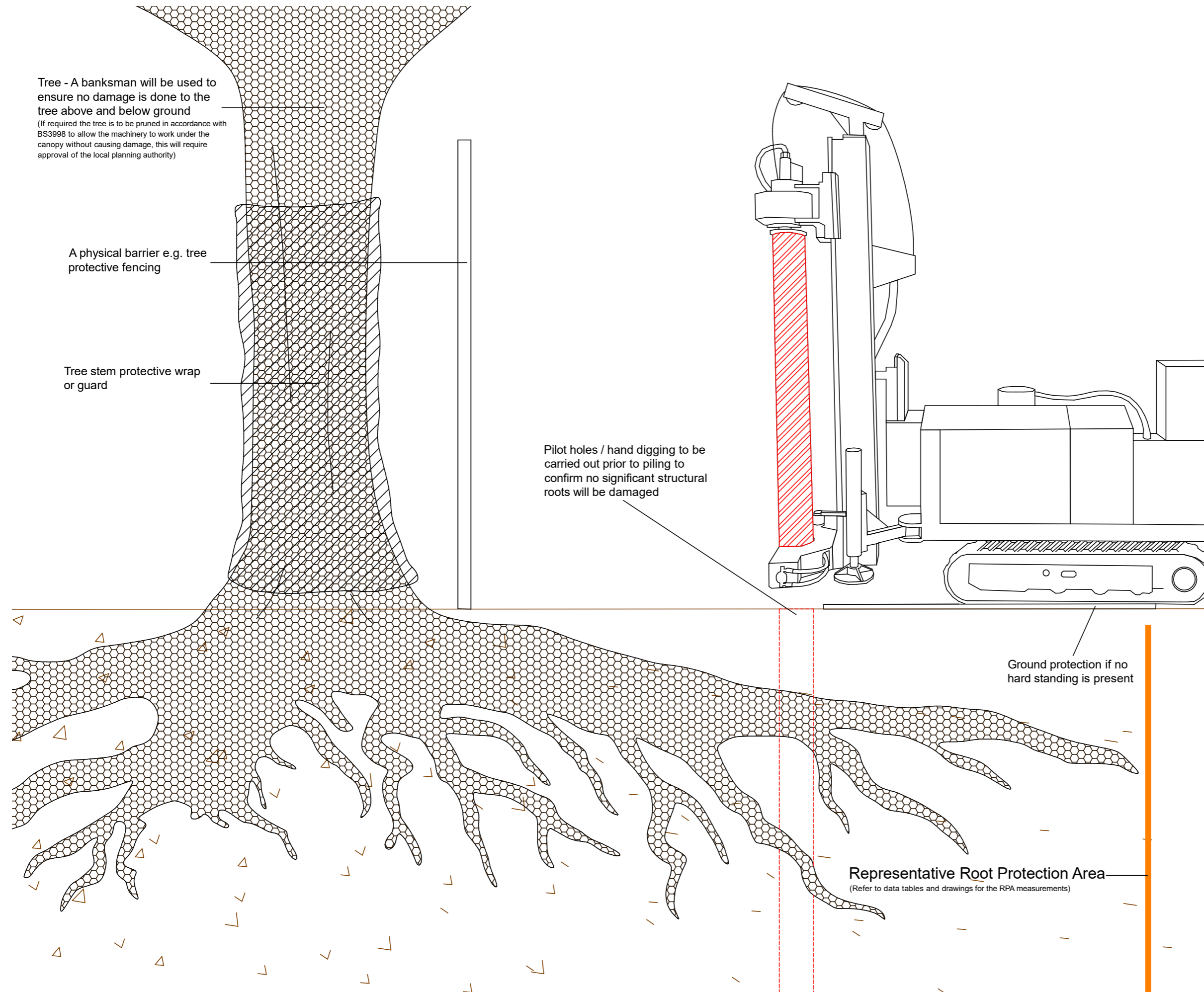
This AMS outlines the parameters to 'piling within tree root protection areas' (RPA) that will be undertaken.

## General Terms

- A. This document will be produced in colour in a A3 format.
- B. The site manager will read and understand this document. It will be the responsibility of the site manager to ensure compliance.
- C. A copy of this document will be made available on site.
- D. If major roots (>25mm diameter) are uncovered, works will cease, the roots will be loosely covered with damp hessian, and arboricultural advice will be sought.

## Piling within Root Protection Areas

1. The site manager will arrange supervision of the works by the Arboricultural Consultant
2. Task specific tree protection measures will be put in place such as a physical barrier e.g. tree protective fencing or hoarding, and stem protection e.g. tree guards or protective wrapping, to protect the tree from anything that may fall towards the specimen. Ground protection may be required if hard standing is not present, to prevent soil compaction.
3. Temporary fencing will be removed allowing access. This will only be at the time when the works are being carried out.
4. No unauthorised personnel or machinery will have access.
5. Any plant being used will be positioned outside of the root protection areas or on areas with suitable ground protection.
6. The piling locations will be marked. Exploration of the roots below will be carried out by either producing a pilot hole with an airspade or hand digging, to ensure no significant structural roots are going to be impacted, typically to a depth between 1 - 1.5m. The supervising Arboricultural Consultant will gauge the depth required depending on the site specific environment. If significant structural roots are found, the piles will require re-positioned.
7. The piling machine will be brought into position. The pile will be inspected, prepared and only used if deemed suitable for the task.
8. The pile will be lifted into position and driven into the approved location.
9. Once all the piles are in place, the removal of all machinery, equipment and materials from the area will take place.
10. Tree protective fencing can be put back into position as per the arboricultural impacts assessment and task specific protection measures removed. The construction exclusion zone (CEZ) is re-instated.
11. Future works within the CEZ will have to be assessed for suitable tree protective measures.



Title		
Piling In Root Protection Areas		
Drawing No.		
Pi.RPA.231112		
Scale	Date	
Not to scale @ A3	12/11/2023	
Drawn	Checked	Approved
PCL	JEK	PCL

