



Title:

Arboricultural Impact Assessment &
Method Statement

Date:

6 March 2017

Proposal:

Demolish existing pub and construct new
apartments

Ref:

DS/39517/AL

Address:

The Curlew PH
Petersfield Road
Havant
PO9 2HU

Client:

Fortitudio Ltd

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Poole, BH15 3NZ

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1.0 Terms of Reference

- 1.1 Treecall Consulting is instructed by Fortitudio Ltd to survey the trees at the Curlew PH, Petersfield Road, Havant and produce an arboricultural impact assessment and method statement for development.

2.0 Report Limitations

- 2.1 The guidance in British Standard 5837:2012 'Trees in relation to design, demolition and construction - Recommendations' has been used to appraise the likely impacts of the proposed development on the existing trees and determine appropriate tree protection measures.
- 2.2 This report is based on my experience and knowledge in arboriculture, details of which are in Appendix 1. Only the trees referred to in Appendix 3 were noted.
- 2.3 The information in this report covers only the trees that were inspected and is an assessment of their condition on that date. All observations were from ground level and no samples of trees or soil were taken. No internal investigations of the trees were carried out and no decay diagnostic devices were used.
- 2.4 The report is for the sole use of the client and was produced in line with the terms of reference. It should not be used for any other purposes or by any other parties.

3.0 Introduction

3.1 Information Provided

- 3.1.1 The following information was provided by ARC Architecture Ltd to aid in preparing this report and is assumed to be accurate;

Drawing Title	Drawing Number	Date
Site, Block & Location Plans	5728 / 100	February 2017
Floor Plans	5728 / 101 - 102	February 2017
Elevations	5728 / 103	February 2017
SUDS Plan	5728 / 104	February 2017
Street scene & Bin/Bike Store	5728 / 106	February 2017

3.2 Site Inspection

- 3.2.1 I visited the site on 19 December 2017. Weather conditions were clear, dry and calm. Visibility was reasonable.

3.3 Brief Site Description

- 3.3.1 The site is roughly triangular in shape and is situated on the southeast side of Petersfield Road. In the centre is a pub and hand car wash facility. Access into the site is achievable off Petersfield Road, to the north, and Leigh Road, to the southeast. The ground levels within the site are level.
- 3.3.2 The trees are situated around the perimeter of the site and include English oak, apple, willow, cherry and hawthorn, mainly in early maturity.

3.4 The Proposals

- 3.4.1 The layout shows the existing pub and hand car wash facility demolished and replaced with new apartments and car parking. Access into the site will be off Leigh Road in the southeast and the existing access of Petersfield Road is to be blocked up.

3.5 Statutory Tree Protection

- 3.5.1 According to Havant Borough Council, who were contacted by telephone on 18 January 2017, the trees within the site are not protected by a tree preservation order (TPO) and the site is not within a conservation area. This means that tree work can proceed without reference to the local planning authority (LPA)
- 3.5.2 If the tree protection situation changes at any time the LPA will issue a new document. If this happens please notify Treecall Consulting so that we can update our records and provide appropriate advice.

4.0 Tree Survey Findings

- 4.1 Nine individual trees were inspected on or adjacent to the site and plotted on plan TC1, Appendix 2. All trees were categorised according to the system set out in British Standard 5837:2012 'Trees in relation to design, demolition and construction - Recommendations'.
- 4.2 British Standard 5837:2012 'Trees in relation to design, demolition and construction - Recommendations' provides a classification of trees according to the value of each in providing a positive feature on the site at an acceptable risk. The classification allows very good trees to be identified as 'A' category trees and 'B' category trees as those which are of slightly impaired condition but still of good quality.
- 4.3 'C' category trees are those of low quality that could be retained but are not of sufficient value to be appropriate constraints on proposals for the site; 'U' category trees are identified as those that have less than 10 years' worthwhile life left.

- 4.4 Three trees are in the 'B' category and two trees are in the 'U' category. The remainder of the trees are all in the 'C' category. Details of all these trees are included in Appendix 3.

5.0 Arboricultural Impact Assessment

- 5.1 The arboricultural impacts overleaf have been identified by adding details of the surveyed trees onto the proposed layout plan, which is included as plan TC1, Appendix 2, and by considering the proposed changes, both in their design and implementation. The impacts must be read in conjunction with Appendix 4 (Arboricultural Method Statement) of this report.

5.2 Appraisal

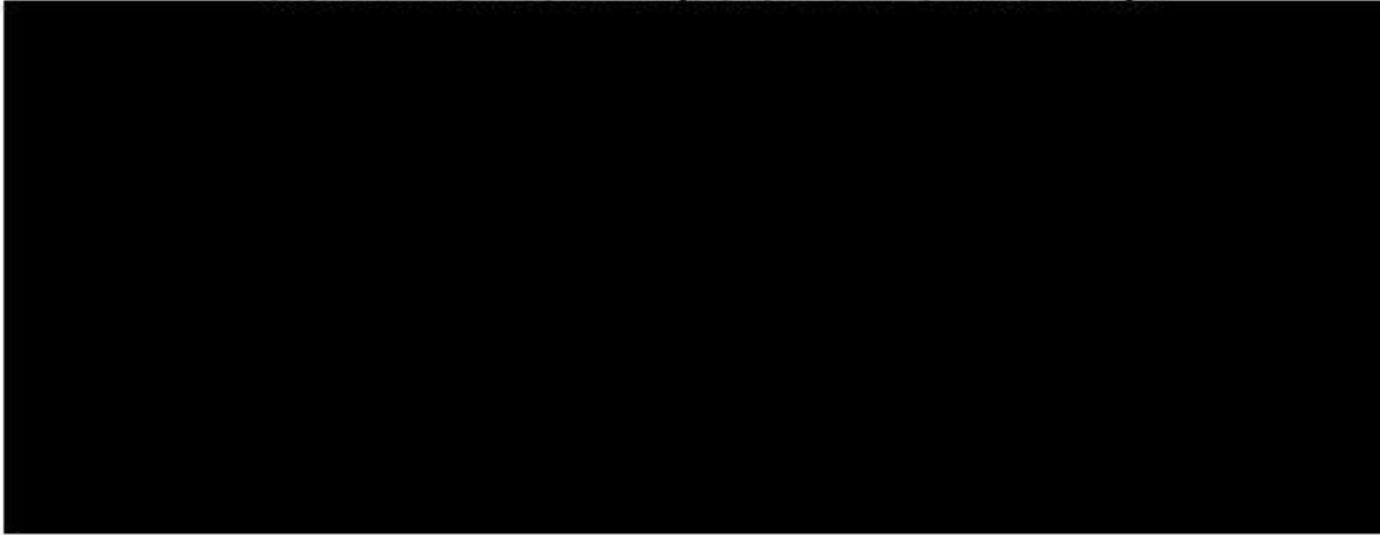
- 5.2.1 Implementation of the proposed development will not result in the removal of any trees.
- 5.2.2 The lateral branches extending to the northwest on the English oak, T3, need to be pruned to provide a sufficient working space and clearance from the proposed building. This tree also has a low canopy. Pruning low and specific lateral branches to provide a 1.5m clearance from the proposed building and 4m above ground level will result in some small diameter pruning wounds, but is unlikely to have a significant impact on tree health and amenity. This tree is poorly situated with the adjacent building and containment pruning will be necessary ongoing management for this tree.
- 5.2.3 The footprint of the proposed building encroaches into the root protection area of the English oak, T3. This small area amounts to 3% of the total unsurfaced area identified and can be offset within the open ground to the east of the tree. Providing excavations are carried out carefully, in accordance with the arboricultural method statement, the impact on tree health and amenity can be kept to acceptable levels.

5.3 Table of arboricultural impacts:

Operation	Trees affected	Impact	Mitigation
Demolition of existing buildings	All retained trees.	Damage to tree roots and branches from demolition machinery.	Tree protection fencing in the locations shown on plan TC1, Appendix 2 will keep disturbance at an acceptable distance from retained trees.
General construction activities	All retained trees	Soil compaction or contamination. Physical damage to stems, branches and roots.	Erect tree protection fencing and temporary ground protection to protect open ground within root protection areas. Locate site cabins, welfare facilities, cement mixing and material storage in area shown on plan TC1, Appendix 2.
Excavations for foundations	T3	Damage to tree roots from excavations.	Excavations can be carried out carefully and supervised by the project arboriculturist to limit damage to acceptable levels.
Construction of building	T3	Damage to branches.	Damage to retained trees can be reduced to acceptable levels by following the guidance in BS 3998:2010. Replacement planting can mitigate the impacts on public amenity.
Excavations for underground services	All retained trees	Physical damage to tree roots.	Locate all services beyond tree root protection areas. Include project arboriculturist in planning of routes onto site for new services.

6.0 Conclusion

- 6.1 Construction of the proposed development could affect tree health if not carried out carefully. Providing the arboricultural method statement (included in Appendix 4) is followed throughout construction, damage to trees can be reduced to acceptable levels. The proposed scheme is unlikely to have a detrimental impact on amenity.



Andy Luddington

Dip Arb L6 (ABC), Tech Cert (ArborA), NDF (Btec), MArborA

Arboricultural Consultant



Appendix 1: Qualifications and Experience

Andy Luddington

Dip Arb L6 (ABC), Tech Cert (ArborA), NDF (Btec), MArborA

Andy has achieved the Awarding Body Consortium Level 6 Diploma in Arboriculture, which is endorsed by the Royal Forestry Society and is the premier qualification within the arboricultural profession. He also holds the Arboricultural Association Technician's Certificate in Arboriculture, the BTEC National Diploma in Forestry and the LANTRA professional tree inspection certificate. He is a Professional member of the Arboricultural Association.

He has worked in the arboricultural industry for 15 years, starting in 2001 as a climbing arborist with an Arboricultural Association approved tree contractor based in the New Forest.

Between 2003 and 2012 he worked for Southampton City Council, New Forest District Council and the Borough of Poole where he gained valuable experience in managing council owned trees, making and administering tree preservation orders, consulting on development proposals and attending court as an expert witness.

In 2012 Andy joined Treecall Consulting as an Arboricultural Consultant bringing his public-sector planning and enforcement expertise to the private sector.

The information presented in this report is based on the information provided and site observations. Conclusions and recommendations are the result of experience within the arboricultural industry.



Appendix 2: Plan TC1

Plan TC1

Title: Plan TC1, Tree Protection Plan
Date: 6 March 2017
Scale: 1:500 @ A3



Appendix 3: Tree Schedule & Key

Key:

Tree no.	Number assigned to tree from survey. Refer to plan for tree location.
Species	Identifies the tree species as clearly as possible according to common or botanical name.
Stem diameters	Stem diameter and number of stems, taken at 1.5m above ground level, measured in millimetres unless indicated otherwise within 'Note'.
Canopy spread	Extent of crown spread in the four cardinal directions, estimated to the nearest half metre.
C Ht	Canopy height estimated above ground level to the nearest half metre.
FSB	Height of the first significant branch, estimated in metres.
FSB dir.	Direction of growth of the first significant branch.
Ht	Height estimated to the nearest half metre.
Life Stage	Estimated age of the tree. Chosen from the following categories;
	Young: Tree only recently planted or established.
	Semi Mature: Established tree, still young and in the first third of its safe useful life.
	Early Mature: Tree in second third of its safe useful life, still with significant capacity for future growth.
	Mature: Tree in the last third of its safe useful life and with no significant capacity for future growth.
	Over Mature: Tree nearing the end of its safe useful life expectancy.
Condition	Assessment of physiological (Phys.) and structural (Struct.) condition according to the following classes:
	Good: Healthy full crown, long life expectancy with no significant defects.
	Fair: Generally healthy, some defects of low significance, limited life expectancy.
	Poor: Low vitality, limited safe useful life expectancy, declining canopy, significant structural defects.
	Dead/dangerous: Urgent removal required.
Observations	Tree issues and general comments along with any appropriate management requirements.
BS Cat.	Relates to Table 1 of BS5837:2012 'Trees in relation to design, demolition and construction - Recommendations'
	A: Trees of high quality with an estimated remaining life expectancy of at least 40 years.
	B: Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.
	C: Trees of low quality with an estimated remaining life expectancy of at least 10 years.
	U: Trees that have an expected safe useful life of less than 10 years regardless of any development proposals.
	1, 2, 3: Sub-categories relating to tree, landscape or cultural values.
RPA	Minimum root protection radius in metres.
Site Visit	19 December 2016
Weather	Clear, dry and calm. Visibility reasonable.



Tree Schedule

Tree no.	Species	Stem diameters (mm)			Canopy spread (m)				C Ht (m)	FSB (m)	FSB dir.	Ht (m)	Life stage	Condition		Observations	BS Cat	RPA (m)
		(mm)	No of Stems	Note	N	E	S	W						Phys.	Struct.			
1	Unknown	350	1	Estimate	0	0	0	0		-	-	8	Early mature	Dead	Dead	On adjacent land. No access to base. Dead tree.	U	4.2
2	English oak	200	1	Estimate	2	3.5	2	3.5	1	-	-	4	Early mature	Fair	Fair	Trunk growing against boundary fence. Small, wide- spreading tree with some decay on lateral branch growing to the south.	C1	2.4
3	English oak	280, 280	2	@ 1.5m	3.5	4	5	4.5	1.5	4	SW	11	Early mature	Fair	Fair	Compression fork at 1.4m above ground level. On adjacent land. Branches growing to the northeast are growing near adjacent building.	B1	4.7
4	Apple	310	1	@ 1.5m	5	4	4	4	2.5	-	-	6	Early mature	Fair	Fair	Crown slightly biased to the west. Small open cavity on south side of lower trunk.	C1	3.7

Tree no.	Species	Stem diameters (mm)			Canopy spread (m)				C Ht (m)	FSB (m)	FSB dir.	Ht (m)	Life stage	Condition		Observations	BS Cat	RPA (m)
		(mm)	No of Stems	Note	N	E	S	W						Phys.	Struct.			
5	Weeping willow	880	1	@ 1.5m	6	6	7	6	2	3.5	NW	18	Mature	Fair	Fair	Large buttress roots. Open cavity (80mm x 100mm) with decay/hollow on southwest side of lower trunk. Large broken branch growing to the southwest at 8m above ground level. Old pollard points at 12m above ground level. Recommendation: remove broken branch growing to the southwest at 8m above ground level.	B1	10.6
6	Cherry	370	1	@ 1.5m	2.5	1	6	5	2	-	-	7	Early mature	Fair	Fair	Suppressed crown biased to the west. Branch growing to the south have been pruned back recently.	C1	4.4
7	Hawthorn	310	1	@ 1.5m	1	1	2	6	1.5	-	-	4.5	Early mature	Fair	Poor	Trunk leans 45 degrees from vertical to the northwest. Large areas of missing bark, decay and ivy on lower trunk	U	3.7

Tree no.	Species	Stem diameters (mm)			Canopy spread (m)				C Ht (m)	FSB (m)	FSB dir.	Ht (m)	Life stage	Condition		Observations	BS Cat	RPA (m)
		(mm)	No of Stems	Note	N	E	S	W						Phys.	Struct.			
8	English oak	370	1	@ 1.5m	4	4.5	5	4.5	3.5	-	-	9	Early mature	Fair	Fair	Growing against boundary fence. Missing main leader. Multiple stems from 4m above ground level.	B1	4.4
9	Cherry	350	1	@ 1m	3	3	3	3	3	-	-	6	Early mature	Fair	Fair	Multiple stems from 1.2m above ground level. Compression forks with some included bark. Crown pruned to reduce height in the past. Some decay extending back from old pruning points.	C1	4.2

Common Name

Apple
Cherry
English oak
Hawthorn
Willow

Scientific Name

Malus species
Prunus species
Quercus robur
Crataegus monogyna
Salix species



Appendix 4: Arboricultural Method Statement

A1 This report is a working document to aid in finalising an effective specification for tree-sensitive operations. It must be retained on site and be available to the site manager/foreman as a reference during construction.

A2 Contact information (complete as required):

Role	Company / Organisation	Name	Phone Number
Contractor			
Architect	ARC Architecture Ltd	Bradley Cheer	01202 479919
Arboricultural Consultant	Treecall Consulting Ltd	Andy Luddington	01202 462602
Planning Officer	Havant Borough Council		02392 446015
Arboricultural Officer			

A3 The details in this method statement may include work to protected trees, consent for which is deemed to be granted if it is approved as part of a planning decision.

A4 Failure to comply with the details in this arboricultural method statement could result in enforcement action being taken by the local planning authority.

A5 Supervision & Arboricultural Support

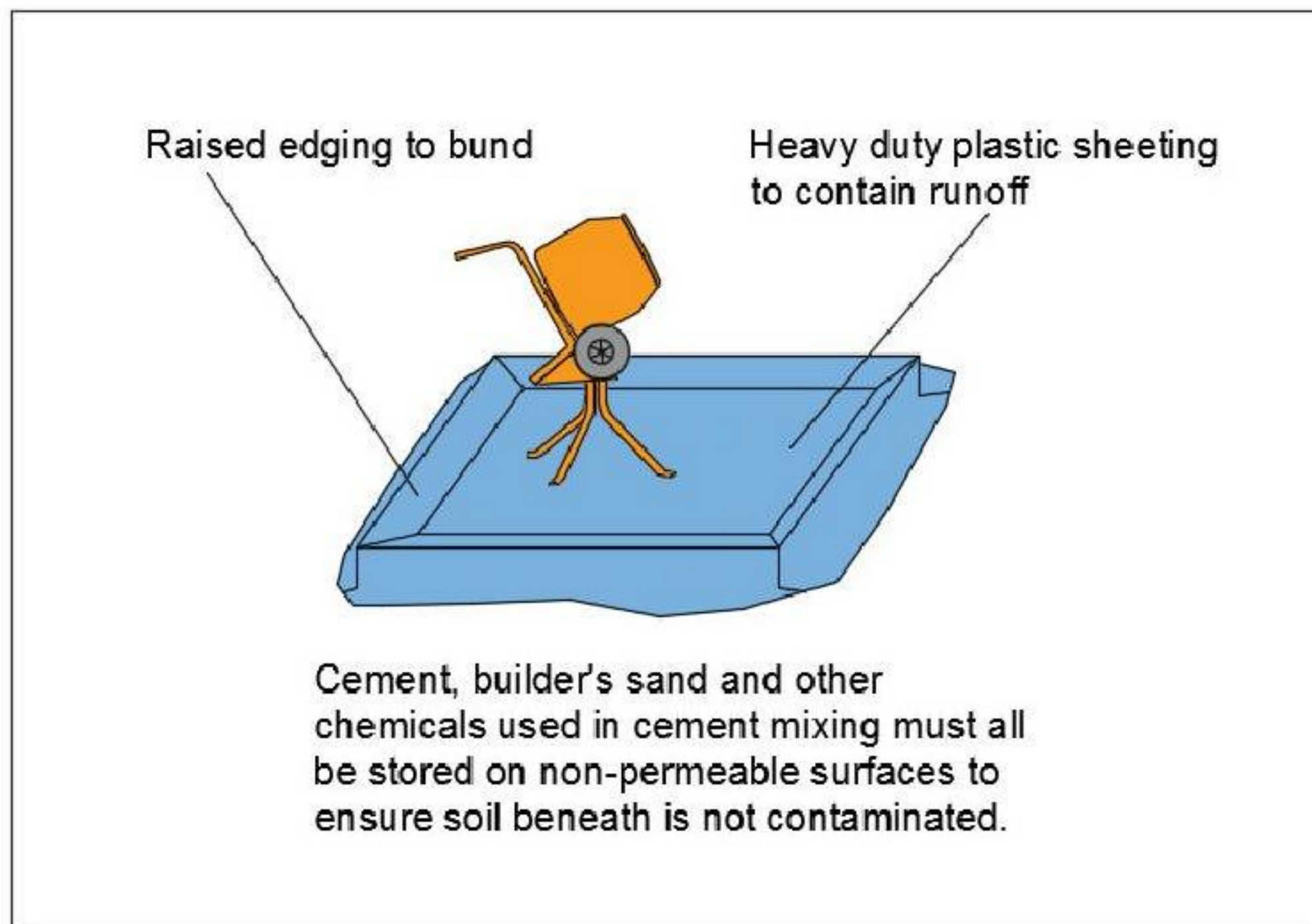
A5.1 The project arboriculturist must supervise or be involved during the following points in the construction process;

- At the time of the pre-commencement site meeting.
- Following installation of tree protection fencing & temporary ground protection.
- Whenever excavations are commencing within tree root protection areas.
- At the time of planning all underground services within the site.
- As any other arboricultural issues arise on the site.

A5.2 Following each site visit a site note must be issued to the client and the local planning authority.

A6 General Arboricultural Issues

- A6.1 There must be no changes to soil levels within tree root protection areas.
- A6.2 A suggested area for material storage, site office and worker facilities is shown on plan TC1, Appendix 2. This area must be located outside of tree protection areas. Final siting of site cabins must be discussed and agreed at the time of the pre-commencement site meeting.
- A6.3 No fires are permitted to be set within the site.
- A6.4 Cement mixing is to be carried out only where there is no significant risk of contamination of tree root systems. No cement mixing is allowed within 10m of trees to be retained. If cement mixing is unavoidable within 10m of any retained tree it must be contained in a bunded area, as illustrated below.



- A6.5 Cranes must only be used where there is no possibility of them damaging overhanging branches.

A7 Phasing of Arboricultural Operations

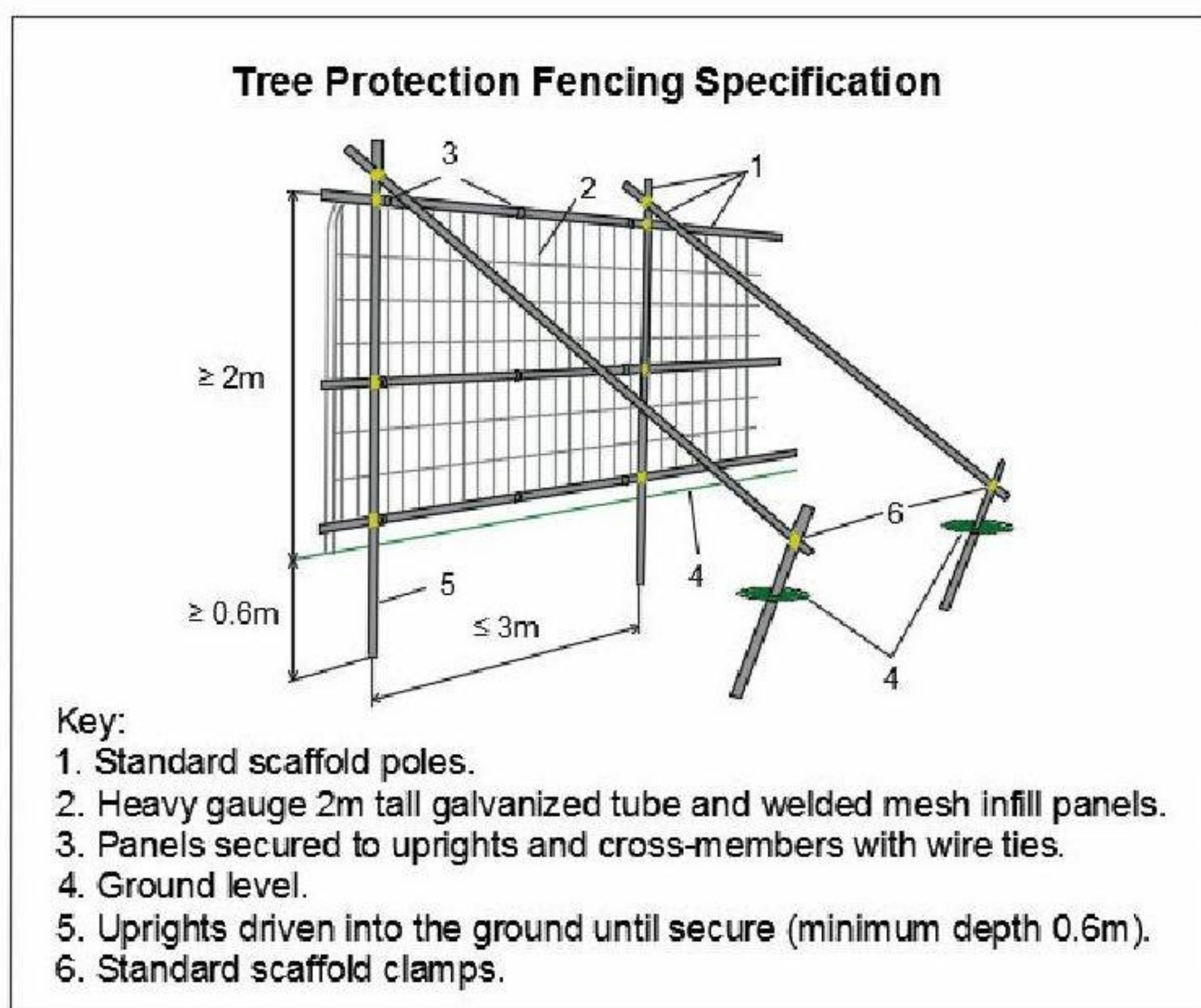
- A7.1 The arboricultural operations listed below are placed in order of when each operation should be implemented. This will assist in the planning of the construction programme.

Implementation order	Operation
1	Install tree protection fencing & temporary ground protection.
2	Hold pre-commencement site meeting.
3	Carry out tree work.

Implementation order	Operation
4	Demolish existing building.
5	Install site cabins and work welfare facilities.
6	Install foundations.
7	Construct new building.
8	Install underground services.
9	Remove site cabins and materials from site.
10	Remove tree protection fencing and temporary ground protection.
11	Plant new trees.

A8 Tree Protection Fencing

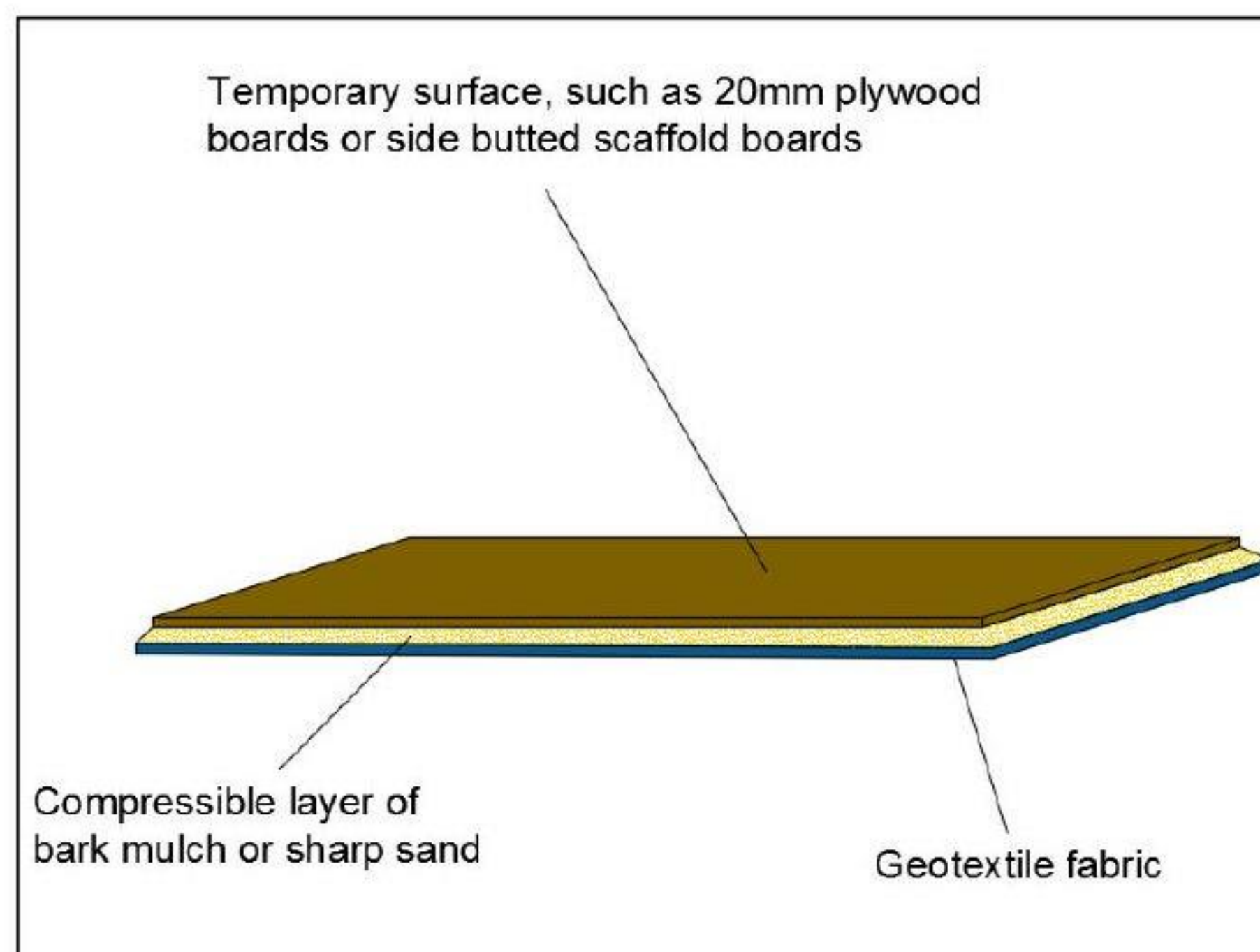
- A8.1 Tree protection fencing, complying with British Standard 5837:2012 'Trees in relation to design, demolition and construction - Recommendations', must be erected in the position shown on plan TC1, Appendix 2.
- A8.2 Tree protection fencing must be erected prior to any demolition work on site and remain as an effective barrier and in position until the end of the construction phase or until the project arboriculturist, or local planning authority provides written authority for its removal.
- A8.3 Specification of the tree protection fencing to be erected on the site:





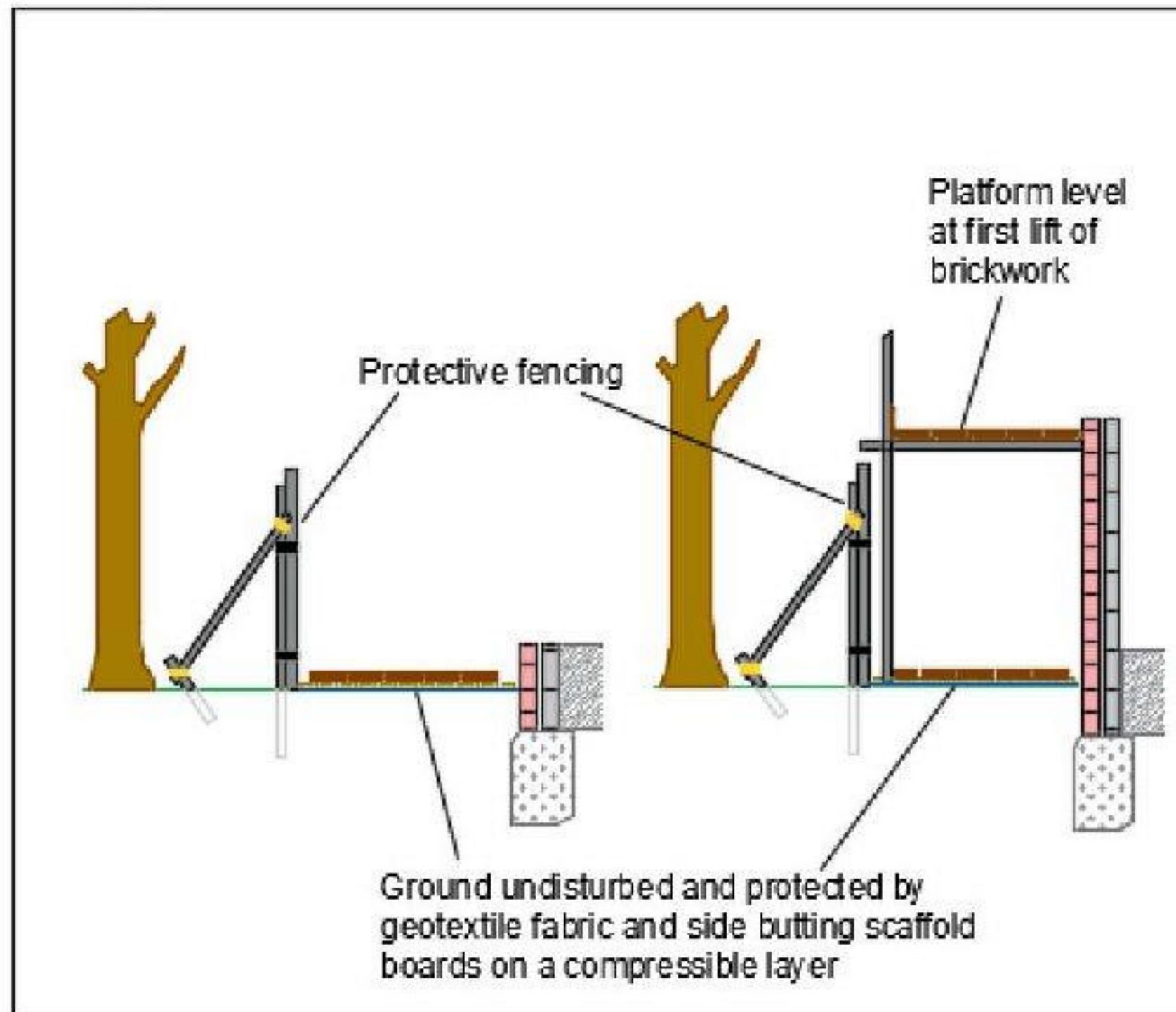
A9 Ground Protection

- A9.1 Prior to the commencement of any works on the site temporary ground protection must be laid in the area shown on plan TC1, Appendix 2. Here, ground protection must be provided by laying a geotextile mat onto the existing ground level and adding compressible materials, such as bark mulch or sharp sand to form a safe, level surface. Onto this surface scaffold boards must be laid to become the working surface for the duration of the construction phase. This protection must remain in position until the end of the construction phase or until the project arboriculturist, or local planning authority provides written authority for its removal.
- A9.2 Specification of the temporary ground protection to be laid on the site:



- A9.3 Where scaffolding is proposed above the area requiring ground protection the footway can be suspended above ground level using the upright scaffold

poles onto which horizontal supports can be attached and then boards used to form the footway surface. A geotextile mat must be laid on the ground beneath to prevent contamination from materials dropped through the footway.



A10 Pre-Commencement Site Meeting

A10.1 A pre-commencement site meeting must be held at which the site manager, the project arboriculturist and, if required by condition, a representative from the local planning authority are present to discuss the tree protection measures. This meeting will be held following the installation of tree protection fencing and temporary ground protection.

A11 Tree Surgery

A11.1 The following works to trees are necessary:

Tree No.	Species	Tree work
T3	English oak	Prune lateral branches growing to the west to provide a 1.5m clearance from the new building. Prune lower branches to provide a 4m clearance above ground level.
T5	Willow	Remove broken branch growing to the southwest at 8m above ground level.

A11.2 The legal Duty of Care requires that all works specified in this report must be carried out by qualified, arboricultural contractors working according to Health & Safety Executive guidelines. All work must be carried out to arboricultural industry best practice and in accordance with BS 3998:2010 'Tree work –

Recommendations'. All tree management work must take account of the Wildlife and Countryside Act, 1981, as amended by the Countryside and Rights of Way act 2000, which makes it a criminal offence to disturb, injure or kill bats or nesting birds.

A12 Install foundations

A12.1 Excavations for foundations within the root protection area of the English oak, T3, must be carried out carefully using hand tools and manual methods to a maximum depth of 600mm. Below this depth, if no significant roots are encountered, an excavator with toothless bucket may be used. This operation must be supervised by the project arboriculturist.

A12.2 Any root severance that is necessary as part of this operation must be carried out in accordance with BS 3998:2010 'Tree work – Recommendations' and the roots must be cut cleanly, to minimise the exposed root surface, and covered with a minimum of 50mm of soil. The sides of the foundation trench must be lined with heavy-duty polythene sheeting before cement is poured.

A13 Underground Services

A13.1 Excavations for underground services must be carried out in a way that avoids significant damage to tree root systems. At the time of planning the routes onto site for such services the project arboriculturist must be consulted.

A13.2 Service runs required within any tree root protection area must be dug using the guidance provided by National Joint Utilities Group Volume 4 'Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees'. This guidance is summarised in Appendix 5.

A13.3 Surface water drains and soakaways must be located outside tree root protection areas to avoid damage to roots during excavation.

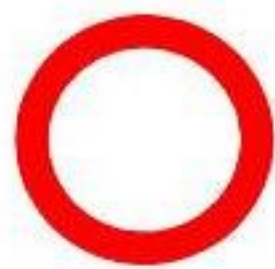
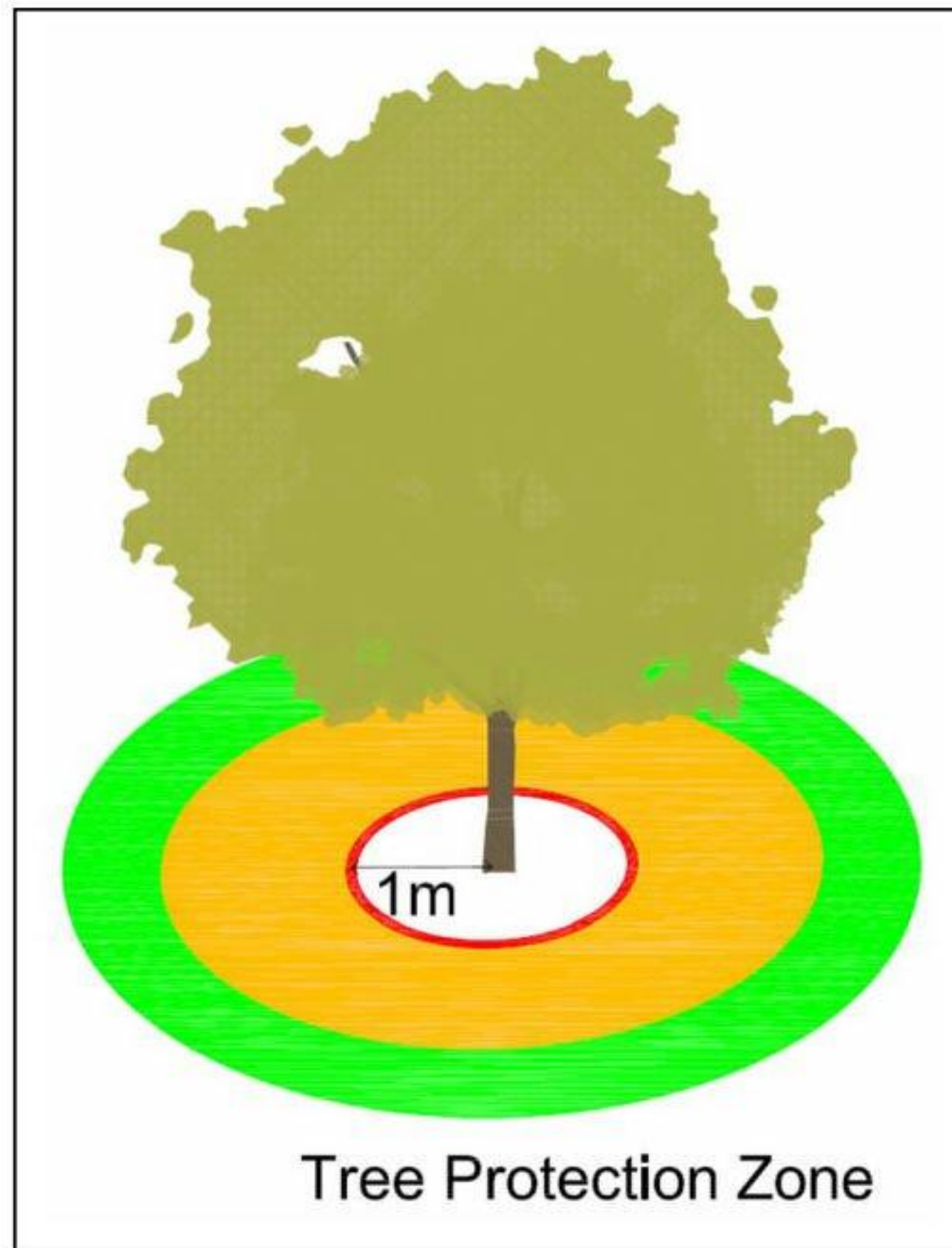
A14 Replacement Tree Planting

A14.1 Eight heavy-standard trees and four pleached trees must be planted throughout the site. Further details are included in Appendix 6.



Appendix 5: NJUG Volume 4, Summary Guidelines

NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees – Issue 2



PROHIBITED ZONE – 1m from trunk.

Excavations of any kind must not be undertaken within this zone unless full consultation with Local Authority Tree Officer is undertaken. Materials, plant and spoil must not be stored within this zone.



PRECAUTIONARY ZONE – 4 x tree circumference.

Where excavations must be undertaken within this zone the use of mechanical excavation plant should be prohibited. Precautions should be undertaken to protect any exposed roots. Materials, plant and spoil should not be stored within this zone. Consult with local authority tree officer if in any doubt.



PERMITTED ZONE – outside of precautionary zone. Excavation works may be undertaken within this zone however caution must be applied and the use of mechanical plant limited. Any exposed roots should be protected.

NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees – Issue 2

DAMAGE TO TREES

Tree roots keep a tree healthy and upright. Most roots are found in the top 600mm of soil and often grow out further than the tree's height. The majority of these roots are very fine; even close to a tree few will be thicker than a pencil. Most street tree roots grow under the footway but may also extend under the carriageway. If roots are damaged the tree may suffer irreversible harm and eventually die.

PROTECTING ROOTS - DO'S and DON'TS

There are three designated zones around a tree each of which has its own criteria for working practices.

THE PROHIBITED ZONE

Don't excavate within this zone.

Don't use any form of mechanical plant within this zone

Don't store materials, plant or equipment within this zone.

Don't move plant or vehicles within this zone.

Don't lean materials against, or chain plant to, the trunk.

Do contact the local authority tree officer or owner of the tree if excavation within this zone is unavoidable.

Do protect any exposed roots uncovered within this zone with dry sacking.

Do backfill with a suitable inert granular and top soil material mix as soon as possible on completion of works.

Do notify the local authority tree officer or the tree's owner of any damage.

THE PRECAUTIONARY ZONE

Don't excavate with machinery. Where excavation is unavoidable within this zone excavate only by hand or use trenchless techniques.

Don't cut roots over 25mm in diameter, unless advice has been sought from the local authority tree officer.

Don't repeatedly move / use heavy mechanical plant except on hard standing.

Don't store spoil or building material, including chemicals and fuels, within this zone.

Do prune roots which have to be removed using a sharp tool (e.g. secateurs or handsaw). Make a clean cut and leave as small a wound as possible.

Do backfill the trench with an inert granular material and top soil mix. Compact the backfill with care around the retained roots. On non highway sites backfill only with excavated soil.

Do protect any exposed roots with dry sacking ensuring this is removed before backfilling.

Do notify the local authority tree officer or the tree's owner of any damage.

THE PERMITTED ZONE

Don't cut roots over 25mm in diameter, unless advice has been sought from the local authority tree officer.

Do use caution if it is absolutely necessary to operate mechanical plant within this zone.

Do prune roots which have to be removed using a sharp tool (e.g. secateurs or handsaw). Make a clean cut and leave as small a wound as possible.

Do protect any exposed roots with dry sacking ensuring this is removed before backfilling.

Do notify the local authority tree officer or the tree's owner of any damage.



Appendix 6: Replacement Tree Planting

Table 1: Tree planting schedule

Tree name	Scientific name	Height (m)	Girth (cm)	Number
Fastigate oak	<i>Quercus robur</i> 'Fastigiata'	3.5-4	12-14	4
Sweet gum	<i>Liquidambar styraciflua</i>	3.5-4	12-14	2
Lebanese wild apple	<i>Malus trilobata</i>	3.5-4	12-14	2
Pleached hornbeam	<i>Carpinus betulus</i>	2.5-3	8-10	4

Tree Quality

Trees must be of good quality, complying with the National Plant Specification and be provided and planted by a specialist contractor. All work must conform to BS 4043:1989 *Recommendations for transplanting root-balled trees* and BS 4428:1989 *Code of practice for general landscape operations (excluding hard surfaces)*.

Planting and Aftercare Requirements

When to plant

Bare-rooted or rootballed trees must be planted when they are dormant, i.e. from November to March. Trees that have been grown in containers for at least one growing season can be planted at other times but will need more watering and aftercare.

How to plant

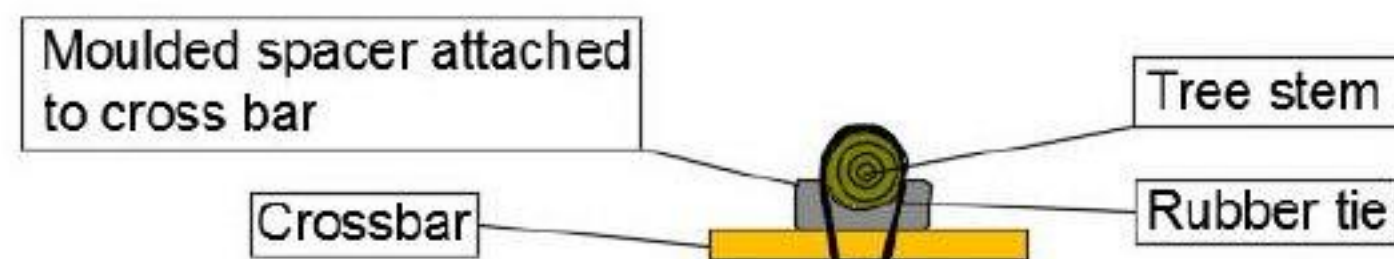
For rootballed trees, excavate the pit using a spade placing the turf, top soil and sub soil (if present) separately on top of a heavy-duty polythene sheet to assist backfilling. The pit shall be 500mm wider than the root spread of the tree and be the same depth as the root system. Break up bottom of pit to 150mm deep and scarify the sides of the pit with a fork. Remove moisture-retentive material used to prevent the roots from drying out during transport but protect all roots from sun and wind during planting. Insert the tree so that the top of the rootball is just below existing ground levels. Replace soil by backfilling around the roots using good quality topsoil with a light texture and conforming with BS 3882 'General Purpose Category'. Gently shaking the tree will aid settlement and ensure that no air spaces exist. Topsoil to be placed in layers 150 mm and settled by light treading with the ball of foot between each layer.

Stakes

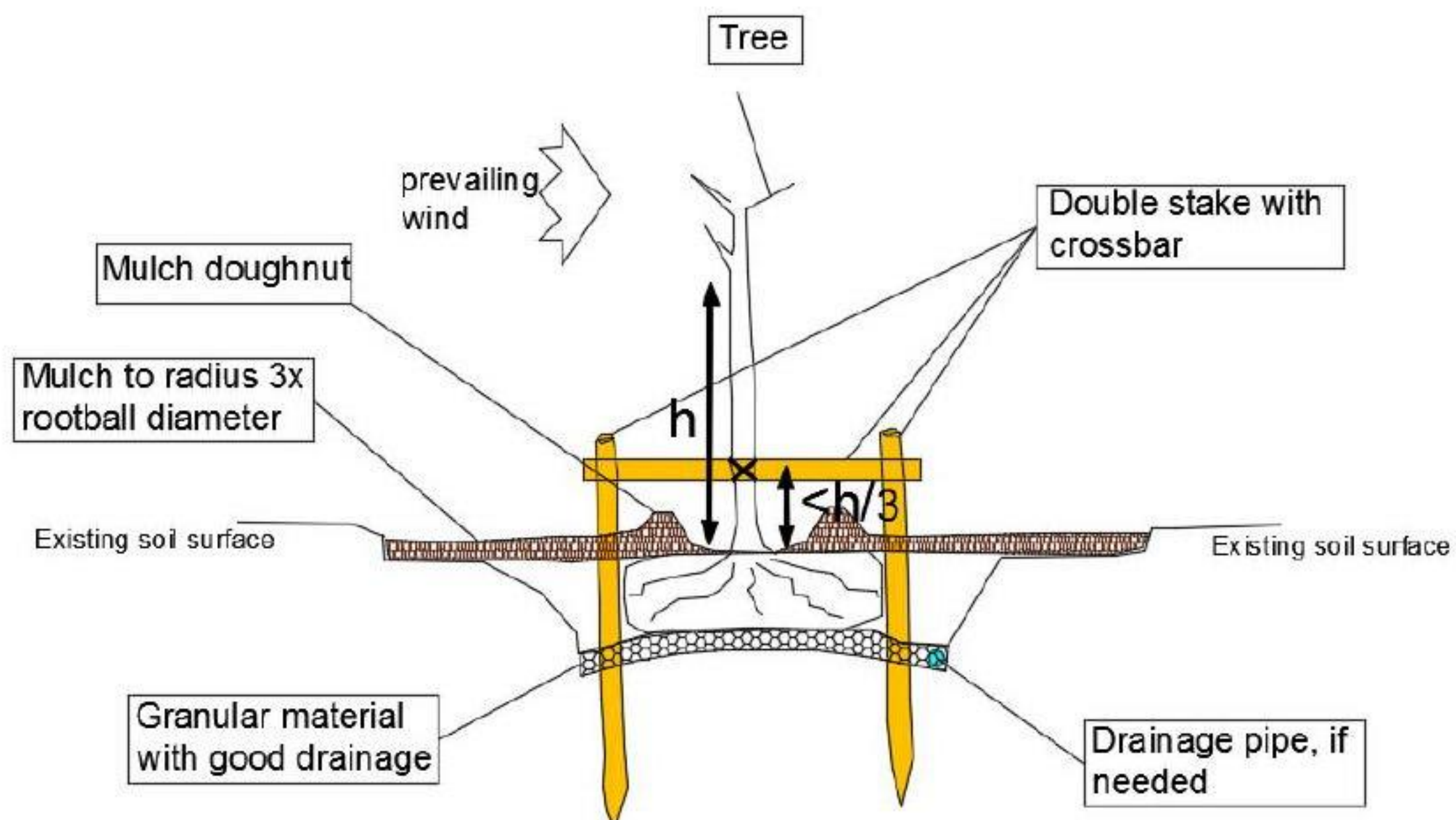
Unless new trees are whips or transplants they must be staked until their roots grow sufficiently to provide adequate anchorage. Stakes must be firm enough to prevent movement of the rootball. Stakes must be between the tree and the most likely

direction of the wind so that the tree pulls away from the stake rather than rubbing against it. The prevailing wind in this area comes from the southwest so the stake generally will be on the southwest side. Newly planted trees must be staked close to the ground (at 1/3 of the clear stem).

Detail of tree stem fixed to cross bar.



Detailed cross section of tree planting pit.



Tree Ties

Unless trees are whips or transplants they must be attached to stakes using rubber tree ties or similar. Ties must be loosened or removed as a tree grows and generally after 3 years.

Guards

Plastic mesh guards must be placed around the stems of planted stock to protect from rabbit and vole damage.

Mulching

Wood chip or leaf mould mulch must be placed around the base of each newly planted tree. Mulch greatly reduces water evaporation from the soil and so helps to retain moisture. Mulch also gradually fertilises the tree. All weeds and grass growing close to the planted tree must be removed before mulch is applied. The mulch must be placed in a mound over a minimum area of radius 1m around each

tree by creating a donut shape with a hollow in the centre at the base of the trunk. The mulch must have a maximum depth of 75mm and be applied directly on-top of the existing soil.

Watering

For the first 2-3 years, new trees must be watered at the beginning of the growing season (April/May) and regularly throughout the summer. If there is a lot of rain, watering can be reduced. If it is hot and sunny, the frequency of watering may have to be increased. If the ground is very dry, water very slowly to stop it running off before it soaks into the soil. Once the soil is damp, the water will penetrate better. Mulch helps conserve water close to the tree. Watering early or late in the day reduces water lost by evaporation.

Weeding

This operation is unlikely to be needed on a regular basis if a 75mm layer of mulch is applied annually in November. However, weeding must be carried out as necessary between April and September.

Monitoring

Monitoring and aftercare is vital if newly planted trees are to establish successfully and realise their full potential. Formative pruning, to provide a good branch structure and to remove broken or defective branches, may be needed and must be carried out by an arboricultural contractor, working in accordance with the Health & Safety Executive guidelines and industry best practice BS 3998:2010 'Tree work – Recommendations'.

Trees must be monitored after planting and regularly throughout the next two to three years to identify any trees suffering from drought and ensure they are effectively watered, to firm up any stakes that are loose and reattach any trees that need re-staking, to repair or replace damaged tree guards, to adjust guards or stakes where tree stems or branches are rubbing, to adjust or remove tree ties that have become loose or are too tight, to carefully prune any broken branches and to identify any instances of vandalism and repair or replace tree supports or replace ruined trees.

V1. 3.3 AC

V2. 6.3

V3.

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