Trevor Heaps

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Arboricultural Impact Assessment

Method Statement & Tree Protection Plan

(to BS:5837 2012)

The Etons Development, Eton College Road

NW3 2BT

Prepared for Shellpoint Trustees Ltd.

Prepared by Trevor Heaps BSc, MICFor, RC. Arbor. A

Date: 15th November 2024

Ref: TH 4674

AA Registered CONSULTANT trees.org.uk

Institute of Chartered Foresters
Registered Consultant

Summary

It is proposed to make alterations to the boundary treatments (new hedging is to be planted and new gates are to be installed).

The proposals are within influencing distance of numerous trees and so some basic tree protection measures and working methodology (in accordance with BS 5837:2012) will ensure they are not detrimentally affected during works.

If the proposal is implemented in accordance with the recommendations laid out in this report, neither the trees or wider landscape will be adversely affected.

This is an arboriculturally defensible scheme and there are no (arboricultural) reasons why planning consent should not be granted.

Contents

1.0 Introduction

1.1 I am Trevor Heaps, Director of Trevor Heaps Arboricultural Consultancy Ltd. I hold a First-Class Honours Degree in Arboriculture; I am a Chartered Arboriculturist and a professional member of the Institute of Chartered Foresters; and I am also a Registered Consultant with the Arboricultural Association. Further information about my qualifications and experience is provided in Appendix 1.

1.2 Contact details:

Who	Name	Organisation	Details
Arboricultural Consultant	Trevor Heaps	THAC Ltd., 12 Plover Drive, Milford-on-Sea, Hampshire, SO41 0XF	Tel: 07957 763 533 trevor@trevorheaps.co.uk
Client		Shellpoint Trustees Ltd.	
London Borough of Camden - LPA	Tree Officer	5 Pancras Square c/o Town Hall, Judd Street London WC1H 9JE	Tel: 020 7974 4444 E-mail: Nick.Bell@camden.gov.uk

2.0 Instruction

2.1 We are to survey all significant trees that could be affected by the proposed works.

2.2 We are then to prepare a report to appraise the effect these works will have on any nearby trees and the surrounding landscape.

2.3 We are then to set out recommendations for the protection of the trees during development - in accordance with British Standard 5837:2012 'Trees in relation to design, demolition and construction – Recommendations' (BS5837).

3.0 Drawings provided.

3.1 Existing and Proposed Block Plans – Ref. ECR-A01-002 – Dated 30/09/2024 – Drawn by UPP

4.0 Report context

4.1 The site was surveyed by Trevor Heaps on the 3rd June 2024.

4.2 The trees were surveyed from within the site at ground level. No climbed inspections were carried out and no root/soil samples were taken for analysis.

4.3 The trees were inspected based on the Visual Tree Assessment (VTA) developed by Mattheck & Breloer (The Body Language of Trees, 1994).

4.4 Tree heights, crown spreads and stem diameters were measured with a clinometer, a Disto laser measure and a diameter measuring tape respectively.

4.5 Small trees and shrubs (with stem diameters less than 75mm) were not surveyed.

4.6 This report is based on the information provided (i.e. site plans, proposed drawings, scales, measurements etc.) and our observations during the site visit.

4.7 This report will support a planning application or an application to discharge a tree-related condition and its purpose is to assist and inform the planning process.

4.8 This report does not set out the detailed, working specifications of tree protection measures and engineering / design features, but provides sufficient detail to demonstrate the feasibility of the scheme in principle.

4.9 The report does not assess the potential influence of trees upon load-bearing soils beneath existing and proposed structures (resulting from water abstraction by trees on shrinkable soils).

5.0 Statutory tree protection

5.1 It is not clear from the Council's website whether the trees within and adjacent to this site are covered by a Tree Preservation Order (TPO) or growing within a Conservation Area, and so it is advisable to make further inquiries before carrying out any tree works (unless the works are approved by virtue of this report being approved as part of a planning permission – but see 5.2).

5.2 Even if approved by way of this report, the Council's consent IS required for works on trees subject to a TPO / within a Conservation Area if:

- Development under a planning permission has not been commenced within the relevant time limit (i.e. the permission has 'expired');
- Only outline planning permission has been granted; or
- It is not necessary to carry out works on protected trees to implement a full planning permission.

6.0 Ecological constraints

6.1 The Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000) provides statutory protection to birds, bats and other species that inhabit trees.

6.2 In addition to any tree matters considered in this report, these protected animals could impose significant constraints on the use and timing of access to the site.

7.0 The site

7.1 This property is situated within a leafy, residential part of Primrose Hill.

8.0 The soil and topography

8.1 The soils at this site were determined using information provided by the British Geological Survey and observations during the site visit.

8.2 The site is level with no adverse features, and the soil texture is London Clay Formation - Clay, silt and sand.

8.3 Given the information above, the soil has the potential of becoming compacted (which is harmful to tree roots).

9.0 Arboricultural Impact Assessment (AIA) and Tree Protection Methods

9.1 The following section describes the potential effects the construction works will have on the subject trees. Mitigation measures are recommended, and this information should be read in conjunction with the supporting Tree Protection Plan (TPP).

9.2 Further information on the subject trees is provided in Appendices 2 & 3.

9.3 Physical damage to stems of retained trees

9.3.1 No heavy machinery is to be used to carry out these relatively minor works and so crown and stem protection is considered unnecessary.

9.3.2 If the Council disagrees with this, the matter can be dealt with by condition and / or by amending the report and plan.

9.4 Foundations within RPA of retained trees

9.4.1 All existing brick walls and pillars are to be retained and so all new gates will be fixed to these existing structures – i.e. there will be no new excavations needed to install the gates.

9.5 Fence posts within the RPAs of retained trees

9.5.1 New hedges are to be planted around much of the boundary. This will include installing posts to support chicken wire – to help create a secure boundary and to give the hedging plants support as they grow.

9.5.2 Several of the new posts will need to be installed within the RPAs of retained trees.

9.5.2 To minimise root disruption, post support spikes shall be used where possible. If, for whatever reason, support spikes can't be used, the post holes will be hand-dug. No concrete will be needed because they are not going to be permanent structures.

9.5.3 These works will take place from on top of either existing hard surfaces or suitable ground protection (which only needs to be laid where each post hole is being hand-dug).

9.5.4 The trees are healthy and will tolerate these very minor works within their RPAs. Subsequently, there will be no detrimental effect on the health or appearance of the trees, nor the visual amenity or arboreal character of the area.

9.6 Soil compaction around retained trees

9.6.1 Soil compaction can be caused by various construction-related activities such as storage or materials and the use of heavy machinery (or even heavier than normal pedestrian access during works). It is harmful to tree roots because it reduces gaseous exchange and the availability of water and nutrients.

9.6.2 To avoid the soil becoming unnecessarily compacted , all vulnerable areas will be covered with ground protection (as and where needed).

9.6.3 The existing hard surfaces will provide ample protection for any roots growing beneath and so do not need reinforcing.

9.7 Underground services

9.7.1 It is likely that an electrical supply will need to be provided to the new gates.

9.7.2 To minimise root disruption, these services will be located along a route that minimises any contact with significant roots (i.e. beyond or along the edges of RPAs or radially away from the tree's stems).

9.7.3 Any sections that fall within the RPAs of retained trees will be hand-dug (retaining all roots over 25mm in diameter.

10.0 Conclusions

10.1 No significant vegetation will need to be removed to facilitate these works.

10.2 The retained / third-party trees will be protected using up-to-date methodology and guidance provided by the current British Standards (BS 58378:2012). To this end, a site-specific AMS and TPP have been provided. These are found in Section 11 and Appendix 9 respectively.

10.3 Provided the recommendations laid out in this report are followed, the proposals will not detrimentally affect the trees or the character / appearance of the local area.

10.4 The trees do not cause any significant conflicts in terms of construction activities, nor will any significant issues of post-development pressure be likely to emerge that could not be managed with routine, minor tree maintenance.

11.0 The Arboricultural Method Statement (AMS)

11.1 Effective tree protection relies on following a logical sequence of events and arboricultural supervision. This AMS lays down the methodology for all construction works that may influence significant trees and recommendations for arboricultural supervision are provided in Section 12.

11.2 It is essential that this AMS is observed and adhered to. Therefore, a copy of this AMS must be issued to the building contractor to be integrated into their work schedule and must also be permanently made available on-site for the duration of development.

11.3 This AMS should be read in conjunction with the supporting Tree Protection Plan (TPP), which is found in Appendix 9.

11.4 At this site, operations are to occur in the following sequence (refer to Appendix 4 for further details on underlined methodology; which are listed in alphabetical order):

1. For each fence post that needs to be installed within a RPA – working from on top of suitable ground protection or existing hard surfaces, excavate post holes (where post support spikes can't be used).

2. Install posts and chicken wire fencing.

3. Plant new hedging.

4. Working from on top of existing hard surfaces or suitable ground protection, excavate the various underground service trenches.

5. Carry out other landscaping works.

12.0 Arboricultural supervision

12.1 A suitably-qualified arboriculturalist will provide on-going supervision during construction. The occasions when supervision is required are outlined in Table 2. If the LPA wish to see further supervision, this matter can be dealt with by amending the report and/or by condition.

Table 2: Indicative arboricultural supervision requirements

Supervision details	Required (Y / N)	When	Details	Nature	Sign off
~~Pre-commencement site meeting~~	~~N~~	~~Prior to any site activity~~	~~To ensure contractors are briefed & understand the AMS & TPP. A site supervisor will be appointed to oversee tree protection & the reporting of any damage to trees or deviation from the AMS - to the project arboriculturist / LPA~~	~~Informal and open discussions. Induction form signed by attendees~~	~~Details of meeting to be sent to LPA within 5 days~~
~~Meeting with tree contractors~~	~~N~~	~~Prior to protective measures being installed~~	~~To ensure tree work instructions are clear and understood.~~	~~Informal meeting~~	~~No follow up required~~
~~Protective measure check~~	~~N~~	~~Prior to any site activity~~	~~To ensure that protective measures are fit-for-purposed and correctly positioned.~~	~~Photos to be provided to consultant~~	~~Details of to be sent to LPA within 5 days~~
~~On-going supervision~~	~~N~~	~~Every 2 weeks during construction~~	~~To ensure that the protective measures have not been moved and continue to be fit-for-purpose.~~	~~Site meeting with a site monitoring report to be prepared~~	~~Details of to be sent to LPA within 5 days~~
~~Supervision of excavation works near trees~~	~~N~~	~~During construction~~	~~To supervise key stages of works near trees (insert which / when)~~	~~Site meeting with a site monitoring report to be prepared~~	~~Details of to be sent to LPA within 5 days~~
~~Meeting with landscape contractors~~	~~N~~	~~After construction~~	~~To provide advice on tree / shrub selection (if not conditioned)~~	~~Informal meeting~~	~~No follow up required~~

12.2 A site inspection record (see Appendix 8) will be prepared after each visit and will state the condition of tree protection measures and outline any required remedial action (and timescales).

12.3 To demonstrate compliance, and to help the LPA discharge relevant planning conditions, all site monitoring reports will be forwarded to the LPAs arboricultural officer within 5 working days of the visit.

12.4 NOTE: It is the applicant's responsibility to arrange meeting dates with the arboriculturist.

13.0 Signature

This report represents a true and factual account of the potential arboricultural impacts, and makes recommendations for appropriate protective measures, at the subject property.

Signed

.....

Trevor Heaps
Chartered Arboriculturist
BSc, MICFor, RC. Arbor. A

Dated

15th November 2024

Appendix 1 - Professional résumé

I am Trevor Heaps, Director of Trevor Heaps Arboricultural Consultancy Ltd. I hold a First-Class Honours Degree in Arboriculture; I am a Chartered Arboriculturist and a professional member of the Institute of Chartered Foresters; and I am also a Registered Consultant with the Arboricultural Association.

Professional training

- Arboriculture and Bats: Scoping Surveys for Arborists (BCT & AA) – October 2017
- Tree Science (AA) – June 2016
- OPM (Oak Processionary Moth) Training (FC) – May 2016
- Visual Tree Assessment (Arboricultural Association) - October 2015
- Trees and the Law (Dr Charles Mynors) - June 2015
- Mortgage (Home Buyers) Report Writing (LANTRA / CAS) - February 2015
- Tree Preservation Orders - effective application (LANTRA / CAS) - November 2014
- Professional Tree Inspection 3-day course (LANTRA / AA) - July 2014
- Arboricultural Consultancy Course (AA) - May 2014
- Further down the subsidence trail 1-day course (AA) - April 2013
- Getting to grips with subsidence 1-day course (AA) - November 2012

AA – Arboricultural Association

BCT – Bat Conservation Trust

CAS – Consulting Arborist Society

FC – Forestry Commission

Appendix 2 - Tree data schedule

Ref	Name	Age	DBH (mm)	Hgt. (m)	Can. hgt. (m)	Can N (m)	Can E (m)	Can S (m)	Can W (m)	Physio cond.	Struct cond.	Life Exp.	Ret. Cat.	Comments	Rec's (proposed works are highlighted)
T1	Crataegus monogyna (Hawthorn)	EM	300	6	3	3	1.5	1.5	3	Fair	Fair	40+	B2	Leaning (not significant).Leans where rails will go	
T2	Acer pseudoplatanus (Sycamore)	M	600	18	5	7.5	7.5	7.5	7.5	Normal	Normal	40+	A2		
T3	Laburnum anagyroides (Laburnum)	EM	200	6	3	1	2.5	3	2.5	Fair	Fair	40+	B2	Leaning (not significant).Leans where rails will go	
T4	Platanus X hispanica (London Plane)	M	1250	25	8	10	10	10	10	Normal	Normal	40+	A2		
T5	Acer pseudoplatanus (Sycamore)	M	450	18	5	7.5	7.5	7.5	7.5	Normal	Normal	40+	A2		
T6	Robinia pseudoacacia (Acacia)	M	600	10	8	2	2	2	2	Normal	Fair	40+	B2	Recently topped.	
T7	Aesculus hippocastanum (Horse Chestnut)	M	700	18	6	8.5	8.5	8.5	8.5	Normal	Fair	40+	B2	Lapsed pollard.	
T8	Laburnum anagyroides (Laburnum)	SM	150	5	3	1.5	1.5	1.5	1.5	Fair	Fair	40+	C2	Leaning (not significant).Leans where rails will go	
T9	Malus x purpurea (Purple Crab Apple)	EM	200	5	3	2.5	0.5	0.5	2.5	Fair	Fair	40+	B2	Leaning (not significant).	
T10	Crataegus crus-galli (Cockspur Thorn)	EM	300	8	4	3.5	3.5	3.5	3.5	Normal	Normal	40+	B2		
T11	Tilia X europaea (Common Lime)	M	500	18	5	7.5	7.5	7.5	7.5	Normal	Normal	40+	A2		
T12	Quercus ilex (Holm Oak)	EM	400	14	5	4.5	4.5	4.5	4.5	Normal	Normal	40+	A2		
T13	Robinia pseudoacacia (Acacia)	EM	350	16	8	6.5	6.5	6.5	6.5	Normal	Normal	40+	B2	Pushing against wall, in way of rails	
T14	Aesculus hippocastanum (Horse Chestnut)	M	700	18	6	8.5	8.5	8.5	8.5	Normal	Fair	40+	B2	Lapsed pollard.	

Ref	Name	Age	DBH (mm)	Hgt. (m)	Can. hgt. (m)	Can N (m)	Can E (m)	Can S (m)	Can W (m)	Physio cond.	Struct cond.	Life Exp.	Ret. Cat.	Comments	Rec's (proposed works are highlighted)
T15	Acer pseudoplatanus (Sycamore)	EM	450	18	4	7.5	7.5	7.5	7.5	Normal	Normal	40+	A2		
T16	Aesculus hippocastanum (Horse Chestnut)	M	700	18	6	8.5	8.5	8.5	8.5	Normal	Fair	40+	B2	Lapsed pollard. Breaking wall	
T17	Acer pseudoplatanus (Sycamore)	M	600	18	4	7.5	7.5	7.5	7.5	Normal	Fair	40+	A2	Crown reduced in past. Cracking wall	
T18	Tilia X europaea (Common Lime)	EM	500	18	4	3.5	3.5	3.5	3.5	Normal	Normal	40+	A2	Cracking wall	
T19	Betula pendula (Silver Birch)	SM	150	12	4	2	2	2	2	Normal	Fair	40+	B2	Leaning (not significant).	
T20	Tilia X europaea (Common Lime)	EM	450	18	4	3.5	3.5	3.5	3.5	Normal	Normal	40+	A2	Cracking wall	
T21	Platanus X hispanica (London Plane)	M	750	20	6	7.5	7.5	7.5	7.5	Normal	Normal	40+	A2	Cracked wall (now removed near base)	
T22	Crataegus monogyna (Hawthorn)	EM	200	7	4	3	3	3	3	Normal	Fair	40+	C2	Dead limb broken and resting on hedge	
T23	Prunus serrulata 'Kanzan' (Kanzan Cherry)	EM	200	5	3	2	2	2	2	Normal	Fair	20+	B2	Branches in way of railings	
T24	Fraxinus excelsior (Ash)	M	650	18	6	7.5	7.5	7.5	7.5	Normal	Normal	40+	A2		
T25	X Cupressocyparis leylandii (Leyland Cypress)	EM	500	8	4	4.5	4.5	4.5	4.5	Fair	Fair	20+	B2	Topped in the past.	
T26	Pyrus communis (Common Pear)	M	600	18	6	6.5	6.5	6.5	6.5	Normal	Normal	40+	B2		
T27	Aesculus hippocastanum (Horse Chestnut)	M	750	18	4	8.5	8.5	8.5	8.5	Fair	Fair	10+	C2	Sparse. Die-back in crown.	
T28	Taxus baccata (Yew)	EM	300	8	3	3.5	3.5	3.5	3.5	Normal	Normal	40+	B2	Leans where railings needed	

Ref	Name	Age	DBH (mm)	Hgt. (m)	Can. hgt. (m)	Can N (m)	Can E (m)	Can S (m)	Can W (m)	Physio cond.	Struct cond.	Life Exp.	Ret. Cat.	Comments	Rec's (proposed works are highlighted)
T29	Acer pseudoplatanus (Sycamore)	EM	450	12	5	4.5	4.5	4.5	4.5	Normal	Normal	40+	B2		
T30	X Cupressocyparis leylandii (Leyland Cypress)	EM	450	14	5	4.5	4.5	4.5	4.5	Normal	Normal	40+	B2		
T31	Quercus ilex (Holm Oak)	EM	200	12	3	3.5	3.5	3.5	3.5	Normal	Normal	40+	B2		
T32	Quercus ilex (Holm Oak)	EM	350	12	3	3.5	3.5	3.5	3.5	Normal	Normal	40+	B2		
T33	Acer pseudoplatanus (Sycamore)	EM	450	14	5	4.5	4.5	4.5	4.5	Normal	Normal	40+	B2		
T34	Acer pseudoplatanus (Sycamore)	EM	450	14	5	4.5	4.5	4.5	4.5	Normal	Normal	40+	B2		
T35	Acer pseudoplatanus (Sycamore)	EM	300	14	5	4.5	4.5	4.5	4.5	Normal	Normal	40+	B2		
T36	Acer pseudoplatanus (Sycamore)	EM	200	14	5	4.5	4.5	4.5	4.5	Normal	Normal	40+	B2		
T37	Acer pseudoplatanus (Sycamore)	EM	300	14	5	4.5	4.5	4.5	4.5	Normal	Normal	40+	B2		
G38	Prunus serrulata 'Kanzan' (Kanzan Cherry)	EM	300	6	4	3.5	3.5	3.5	3.5	Normal	Normal	40+	B2		
T39	Tilia X europaea (Common Lime)	M	600	18	5	4.5	4.5	4.5	4.5	Normal	Normal	40+	A2		
T40	Acer pseudoplatanus (Sycamore)	D	450	14	5	5	5	5	5	Dead	Dead	<10	U		
T41	Tilia X europaea (Common Lime)	EM	250	16	8	3.5	3.5	3.5	3.5	Normal	Normal	40+	A2		
T42	Tilia X europaea (Common Lime)	EM	400	16	8	3.5	3.5	3.5	3.5	Normal	Normal	40+	A2		

Ref	Name	Age	DBH (mm)	Hgt. (m)	Can. hgt. (m)	Can N (m)	Can E (m)	Can S (m)	Can W (m)	Physio cond.	Struct cond.	Life Exp.	Ret. Cat.	Comments	Rec's (proposed works are highlighted)
T43	Fraxinus excelsior (Ash)	M	650	16	8	6.5	6.5	6.5	6.5	Normal	Fair	40+	B2	Crown reduced in past. Sparse.	
T44	Ailanthus altissima (Tree of Heaven)	EM	250	16	8	3.5	3.5	3.5	3.5	Fair	Fair	20+	C2	Sparse. Die-back in crown.	
T45	Prunus cerasifera (Cherry Plum)	M	450,200	8	4	6	6	6	6	Normal	Normal	20+	B2		
T46	Crataegus monogyna (Hawthorn)	EM	200	6	3	3	3	3	3	Normal	Normal	40+	B2		
T47	Prunus avium (Wild Cherry)	EM	250	6	3	3.5	3.5	3.5	3.5	Normal	Normal	40+	B2		
T48	Fraxinus excelsior (Ash)	EM	450	16	4	4.5	4.5	4.5	4.5	Normal	Fair	40+	B2	Crown reduced in past. Sparse.	
T49	Platanus X hispanica (London Plane)	EM	300	14	4	2.5	1.5	2.5	5	Normal	Normal	40+	B2	Growing on third-party land. Cracking wall	
T50	Prunus cerasifera 'Pissardii' (Purple-leafed Plum)	EM	250	6	2	3.5	3.5	3.5	3.5	Normal	Normal	40+	B2		
T51	Prunus avium (Wild Cherry)	EM	250	8	3	3.5	3.5	3.5	3.5	Normal	Normal	40+	B2		
T52	Platanus X hispanica (London Plane)	M	750	25	15	8	8	8	8	Normal	Normal	40+	A2		
T53	Platanus X hispanica (London Plane)	M	750	25	15	8	8	8	8	Normal	Normal	40+	A2		
T54	Fraxinus excelsior (Ash)	EM	500	16	5	7.5	7.5	2.5	7.5	Normal	Fair	40+	B2		
T55	Aesculus hippocastanum (Horse Chestnut)	M	750	18	3	7.5	7.5	7.5	7.5	Normal	Normal	40+	B2	Cracking wall	
T56	Ulmus sp. (Elm)	EM	250,150	12	3	3.5	3.5	3.5	3.5	Normal	Normal	40+	B2		

Ref	Name	Age	DBH (mm)	Hgt. (m)	Can. hgt. (m)	Can N (m)	Can E (m)	Can S (m)	Can W (m)	Physio cond.	Struct cond.	Life Exp.	Ret. Cat.	Comments	Rec's (proposed works are highlighted)
T57	Platanus X hispanica (London Plane)	M	750	25	4	7.5	7.5	7.5	7.5	Normal	Normal	40+	A2	Cracking wall	
T58	Aesculus hippocastanum (Horse Chestnut)	M	650	18	4	7.5	7.5	7.5	7.5	Normal	Fair	40+	A2	Lapsed pollard.	
T59	Aesculus hippocastanum (Horse Chestnut)	M	650	18	4	7.5	7.5	7.5	7.5	Normal	Fair	40+	A2	Lapsed pollard.	
T60	Aesculus hippocastanum (Horse Chestnut)	EM	550	16	4	6.5	6.5	6.5	6.5	Normal	Normal	40+	A2		
T61	Prunus cerasifera 'Pissardii' (Purple-leafed Plum)	EM	250	6	2	3	3	3	3	Fair	Fair	10+	C2	Heavily leaning and suckering	
T62	Crataegus monogyna (Hawthorn)	SM	200	8	3	2.5	2.5	2.5	2.5	Fair	Fair	20+	B2	Sparse. Ivy (light covering).	
T63	Laburnum anagyroides (Laburnum)	SM	100	5	3	2	2	2	2	Normal	Normal	40+	C2		
T64	Fraxinus excelsior (Ash)	M	650	25	6	9	9	9	9	Normal	Normal	40+	A2	Surveyed from outside the site	
T65	Acer pseudoplatanus (Sycamore),Tilia X europaea (Common Lime)	M	650	18	6	7.5	7.5	7.5	7.5	Normal	Fair	40+	A2	Surveyed from outside the site (from Streetview). Species not definite.	

Appendix 3 - Tree data schedule explanatory notes

This section explains the terms used in the **Tree data schedule** (Appendix 2).

Ref: Each item of vegetation has its own unique number, prefixed by a letter such that:

T1=Tree **S2**=Shrub or stump **G3**=Group **H4**=Hedge **W5**=Woodland

Species: Latin (and common names in brackets) are given.

Age:

- **Y - Young** - Usually less than 10 years' old
- **SM - Semi-mature** - Significant future growth to be expected, both in height and crown spread (typically below 30% of life expectancy)
- **EM - Early-mature** - Full height almost attained. Significant growth may be expected in terms of crown spread (typically 30-60% of life expectancy)
- **M - Mature** - Full height attained. Crown spread will increase but growth increments will be slight (typically 60% or more of life expectancy)
- **V - Veteran** - A level of maturity whereby significant management may be required to keep the tree in a safe condition
- **OM – Over-mature** - As for veteran except management is not considered worthwhile

DBH (mm): Stem diameter, measured in mm, taken at 1.5m above ground level where possible.

Hgt. (m): Height: Measured from ground level to the top of the crown in metres.

Can Hgt. (m): Crown height: Measured from ground level to the lowest tips of the main crown begins in metres. Where the crown is unbalanced it is measured on the side deemed to be most relevant. This is usually the side facing the area of anticipated development.

Can N, S, E, W: - Canopy extents
Approximate radial crown spread measured to the four cardinal points (for individual trees only)

Physio cond.: Indicates the physiological condition of the tree as one of the following categories:

- **Normal** - Healthy tree with no symptoms of significant disease
- **Fair** - Tree with early signs of disease, small defects, decreased life expectancy, or evidence of less-than-average vigour for the species
- **Poor** - Significant disease present, limited life expectancy, or with very low vigour for the species and evidence of physiological stress
- **Very poor** - Tree is in advanced stages of physiological failure and is dying
- **Dead** - No leaves or signs of life

Struct cond.: Indicates the structural condition of the tree as one of the following categories:

- **Normal** - No significant structural defects noted
- **Fair** - Some structural defects noted but remedial action not required at present
- **Poor** - Significant defects noted resulting in a tree that requires regular monitoring or remedial action
- **Very poor** - Major defects noted that compromise the safety of the tree. Remedial works or tree removal is likely to be required.
- **Dead** - No leaves or signs of life

Life Exp.: The estimated number of years before the tree may require removal (<10), (10 – 20), (20 – 40), or (40+).

Ret. Cat.: - Retention category: BS5837:2012 Category where:

- **U = Trees unsuitable for retention**. Trees in such a condition that cannot realistically be retained as living trees in the context of the current land use for longer than 10 years. These trees are shown on the tree plans with red centres.

- **A = Trees of high quality**. Trees of high quality with an estimated remaining life expectancy of at least 40 years. These trees are shown on the tree plans with green centres.

- **B = Trees of moderate quality**. Trees of moderate quality with an estimated remaining life expectancy of at least 20 years. These trees are shown on the tree plans with blue centres.

- **C = Trees of low quality.** Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm. These trees are shown on the tree plans with grey centres.

Trees of notable quality are graded as Category A or Category B. These trees are sometimes divided further into sub-categories:

- Sub-category 1 is allocated where it has been assessed that the tree has mainly arboricultural qualities.
- Sub-category 2 is allocated where it is assessed that the tree has mainly landscape qualities.
- Subcategory 3 is allocated where it is assessed that the tree has mainly cultural qualities, including conservation.

Trees may be allocated more than one sub-category. All sub-categories carry equal weight, with for example an A3 tree being of the same importance and priority as an A1 tree.

Comments: Tree form and pruning history are also recorded along with an account of any significant defects.

Rec's - Recommendations: Usually based on any defects observed and intended to ensure that the tree is in an acceptable condition.

Appendix 4 – Specifications for tree protective measures

Excavations by hand for service trenches - close to the Root Protection Areas (RPAs) of retained trees

The RPA of the subject tree/s shall be clearly marked on the ground with fluorescent marker paint - by tying the spray can to the tree/s stem using a pre-determined length of string to represent the root protection radius (RPR) and keeping the string taught when spraying the ground. Cross reference the fourth column of the table in Appendix 2 (DBH mm) with the 2nd column in table 1 below to determine the length of string required.

Table 1. The RPRs given below are for single-stemmed trees.
Please contact the project arboriculturist if the subject tree is multi-stemmed.

Single stem diameter (mm)	Radius of nominal circle (m) / RPR	RPA (m^2)	Single stem diameter (mm)	Radius of nominal circle (m) / RPR	RPA (m^2)	Single stem diameter (mm)	Radius of nominal circle (m) / RPR	RPA (m^2)
75	0.9	3	475	5.7	102	875	10.5	346
100	1.2	5	500	6	113	900	10.8	366
125	1.5	7	525	6.3	125	925	11.1	387
150	1.8	10	550	6.6	137	950	11.4	408
175	2.1	14	575	6.9	149	975	11.7	430
200	2.4	18	600	7.2	163	1000	12	452
225	2.7	23	625	7.5	177	1025	12.3	475
250	3	28	650	7.8	191	1050	12.6	499
275	3.3	34	675	8.1	206	1075	12.9	523
300	3.6	41	700	8.4	222	1100	13.2	547
325	3.9	48	725	8.7	238	1125	13.5	572
350	4.2	55	750	9	254	1150	13.8	598
375	4.5	64	775	9.3	272	1175	14.1	624
400	4.8	72	800	9.6	289	1200	14.4	651
425	5.1	82	825	9.9	308	1225	14.7	679
450	5.4	92	850	10.2	327	1250	15	707

The turf layer shall be removed and excavations (by hand) of the service trench can commence using a fork and trowel (where within the RPAs of retained trees).

Roots below 25mm in diameter can be cut cleanly back to a suitable growth point using sharp secateurs or a sharp pull saw. Roots over 25mm in diameter should be retained (unless their removal is agreed by the arboricultural consultant).

The exposed soil on the sides of the trench will be covered with damp hessian (to maintain soil moisture and protect any retained roots from desiccation).

The various pipework shall then be fed through/ beneath the retained roots.

The trench shall be back-filled with soil as soon as practical.

Excavation of post-hole footings within Root Protection Areas (RPAs) of retained trees

The RPA of the subject tree shall be clearly marked on the ground with fluorescent marker paint - by tying the spray can to its stem using a pre-determined length of string to represent the tree's root protection radius (RPR) and keeping the string taught when spraying the ground. Cross reference the fourth column of the table in Appendix 2 (DBH mm) with the 2nd column in table 1 below to determine the length of string required.

Table 1. The RPRs given below are for single-stemmed trees.
Please contact the project arboriculturist if the subject tree is multi-stemmed.

Single stem diameter (mm)	Radius of nominal circle (m) / RPR	RPA (m^2)	Single stem diameter (mm)	Radius of nominal circle (m) / RPR	RPA (m^2)	Single stem diameter (mm)	Radius of nominal circle (m) / RPR	RPA (m^2)
75	0.9	3	475	5.7	102	875	10.5	346
100	1.2	5	500	6	113	900	10.8	366
125	1.5	7	525	6.3	125	925	11.1	387
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350	4.2	55	750	9	254	1150	13.8	598
375	4.5	64	775	9.3	272	1175	14.1	624
400	4.8	72	800	9.6	289	1200	14.4	651
425	5.1	82	825	9.9	308	1225	14.7	679
450	5.4	92	850	10.2	327	1250	15	707

A cable avoidance tool (C.A.T.) will then be used to check for underground cables. If found, their locations will be marked with a biodegradable marker paint (using a different colour to the one used to mark the RPAs).

Working off either ground protection or an existing hard surface, the optimal locations for the post-holes (i.e. between roots) will be determined by hand, using tools such as a fork, spade, trowel, stiff brush or an air spade.

If roots below 25mm in diameter are discovered, they can be severed cleanly back to a suitable growth point with sharp secateurs or a sharp pull saw. If roots over 25mm in diameter are discovered, they will be bent / relocated as best as possible. If impractical, then the above process will be repeated.

When the post-hole location(s) have been determined, the remainder of the hole(s) will be hand-dug.

The posts shall then be set in place.

The structure-supporting beam(s) can now be fixed to the posts and construction can commence.

Ground Protection

The following *italicised* text is based on an extract from British Standard 5837:2012 - Trees in relation to design, demolition and construction– Recommendations.

Temporary ground protection should be able to support any traffic entering or using the site without being distorted or causing compaction of underlying soil and might comprise one of the following:

a) for pedestrian-movements only, a single thickness of scaffold boards placed either on top of a driven scaffold frame, to form a suspended walkway, or on top of a compression-resistant layer (e.g. 100 mm depth of woodchip), laid onto a geotextile membrane;

b) for pedestrian-operated plant up to a gross weight of 2 t, proprietary, inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150 mm depth of woodchip), laid onto a geotextile membrane;

c) for wheeled or tracked construction traffic exceeding 2 t gross weight, an alternative system (e.g. proprietary systems or pre-cast reinforced concrete slabs) to an engineering specification designed in conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected.

The location of the temporary ground protection is shown on the tree protection plan and detailed within the arboricultural method statement.

In all cases, the objective will be to avoid the unnecessary compaction of soil (which can arise from a single passage of a heavy vehicle, especially in wet conditions) so that tree root functions remain unimpaired.

All ground protection is to be maintained in good order, so it is fit for purpose throughout development. The ground protection will not be altered in any way, or prematurely removed without prior consent of the project arboriculturist or the LPA arboricultural officer.

Figure 1: An example of ground protection on work areas within a RPA (BS 5837:2005).

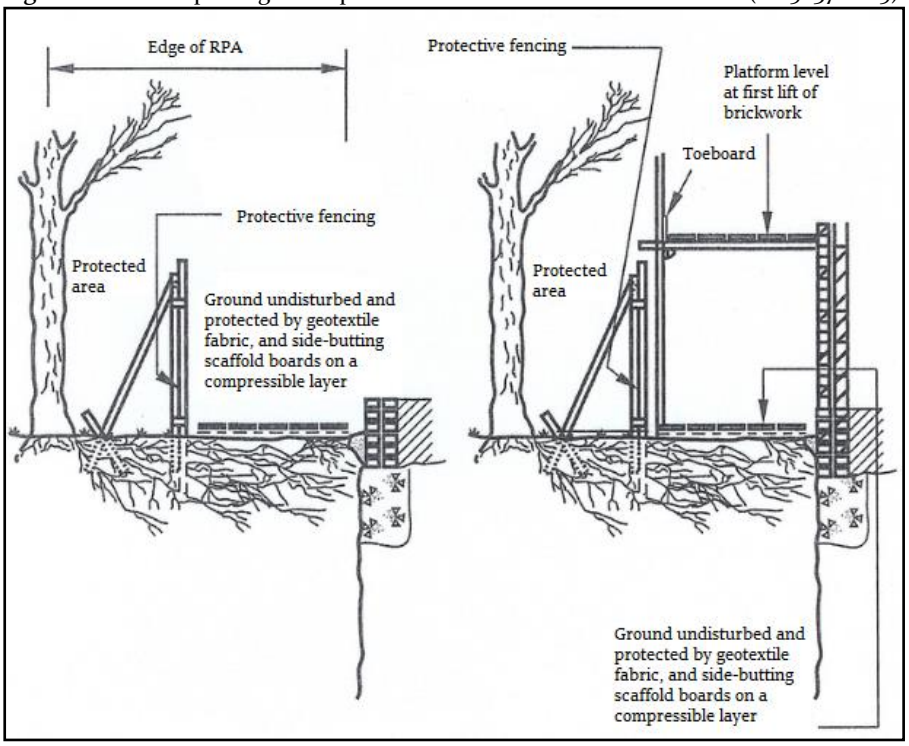


Photo 1. Scaffold boards placed on woodchip

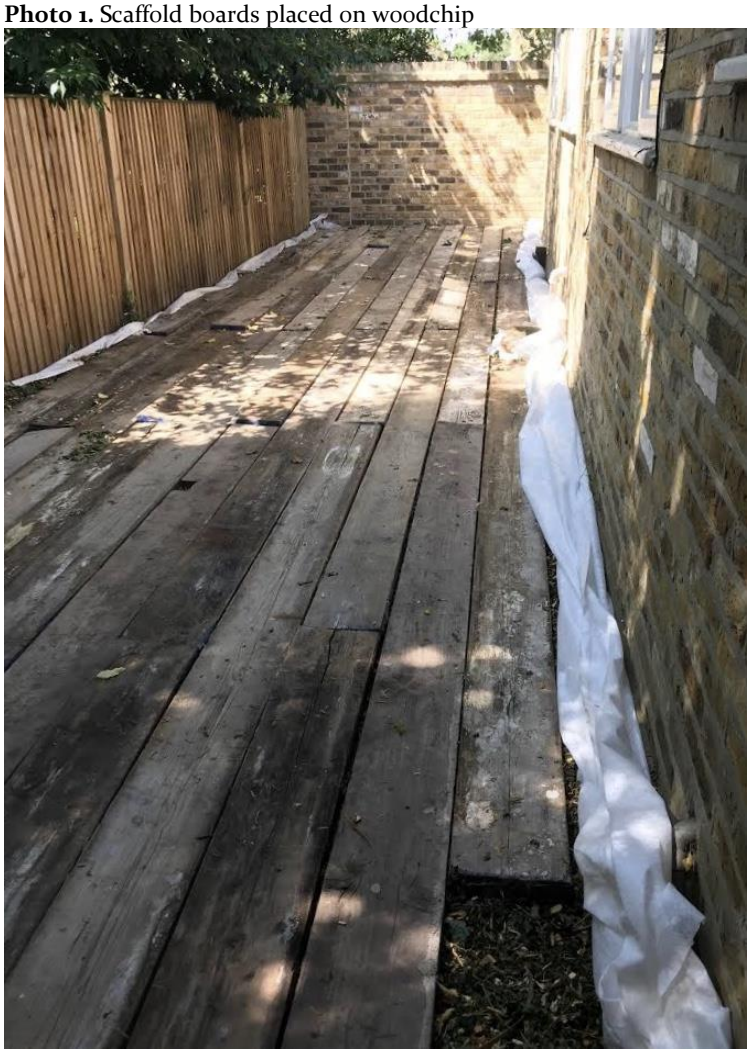


Photo 2. An example of heavy-duty ground protection.

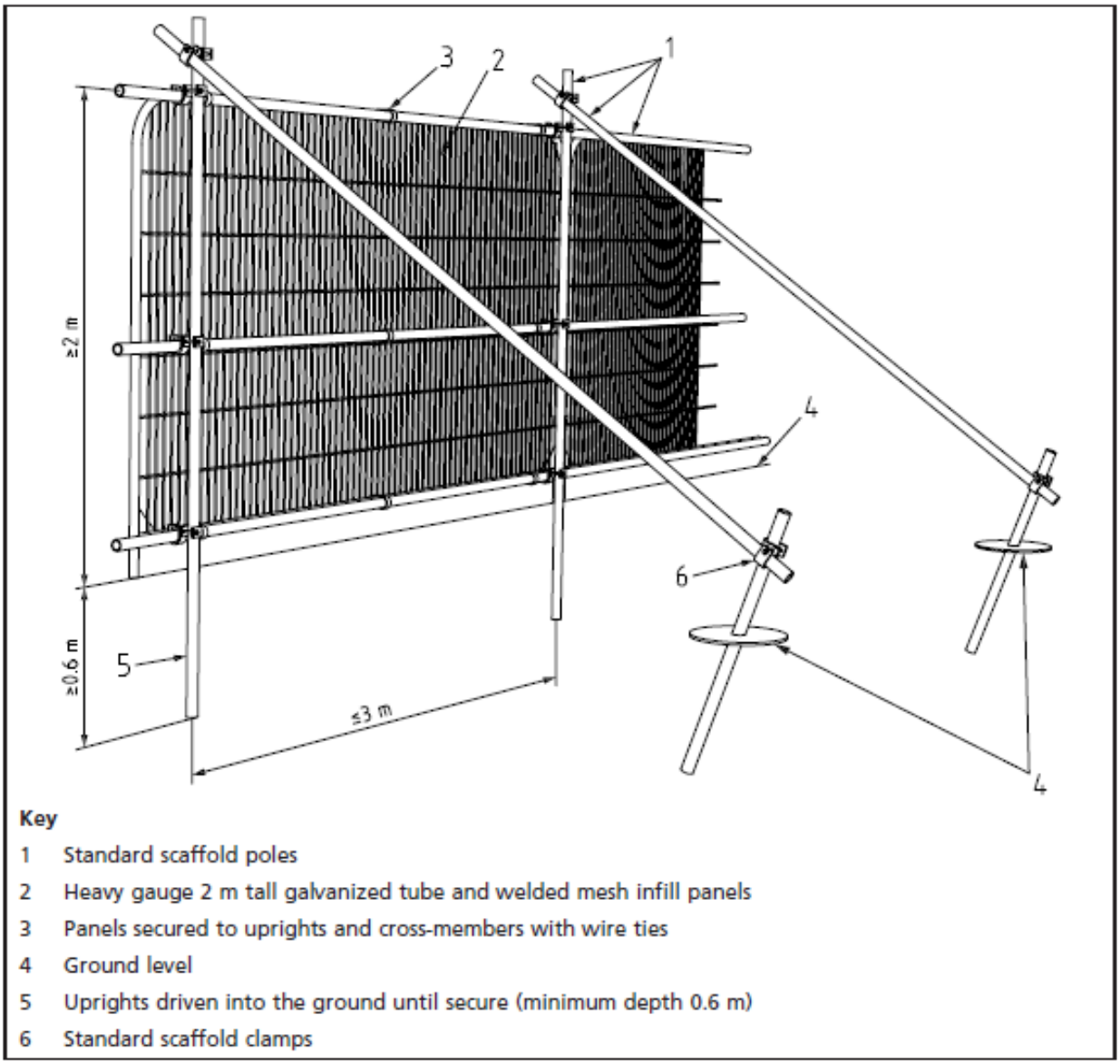
Photo 2 Scaffold framework supporting wooden boards

Protective fencing

The following is based on an extract from British Standard 5837:2012 - Trees in relation to design, demolition and construction– Recommendations.

The framework support (shown in Figure 2 and photo 1) is the usual method of support for 'Heras' fencing. Some variations are possible if site conditions are appropriate; i.e. support by wooden posts (75mm x 75mm x 2.75m) dug or concreted into the ground (dry mix concrete contained within a plastic bag), or if there is no pressure for access, a lighter form of netting on stakes.

Figure 2: Default specification for protective barrier (BS 5837:2012)



Key

1 Standard scaffold poles
2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
3 Panels secured to uprights and cross-members with wire ties
4 Ground level
5 Uprights driven into the ground until secure (minimum depth 0.6 m)
6 Standard scaffold clamps

Photo 1: A worked example of the default specification for protective barrier (BS 837:2012)

Durable, all-weather signs are to be attached to the fencing (an example sign is provided below). These shall be printed, laminated and attached at regular intervals along the fencing.

Once erected, the protective fencing is to be regarded as sacrosanct and there is to be no access into the area protected by it - the construction exclusion zone (CEZ).

The protective fencing is to be maintained in good order, so it is fit for purpose throughout the construction process. The fencing will not be altered in any way, or prematurely removed without prior consent of the project arboriculturist and/or (if necessary) the LPA arboricultural officer.

Where specified in the AMS, the tree(s) stem/s shall be boxed off with wooden ply boards or wrapped in hessian and chestnut pale fencing / trunk protection (see example below). This will help avoid any direct damage to tree stems from passing machinery (see photo 2).

Photo 2: Trees protected by hessian & chestnut pale fencing / limbs protected by wooden boxing

Photo 2. https://greengridsystems.com/products/trunk-protecta

TREE PROTECTION FENCING

KEEP OUT

This fencing must not be removed or altered in any way without prior consultation with the project arboriculturist!

Please report any damage to trees and/or fencing to the site manager or the project arboriculturist

Trevor Heaps

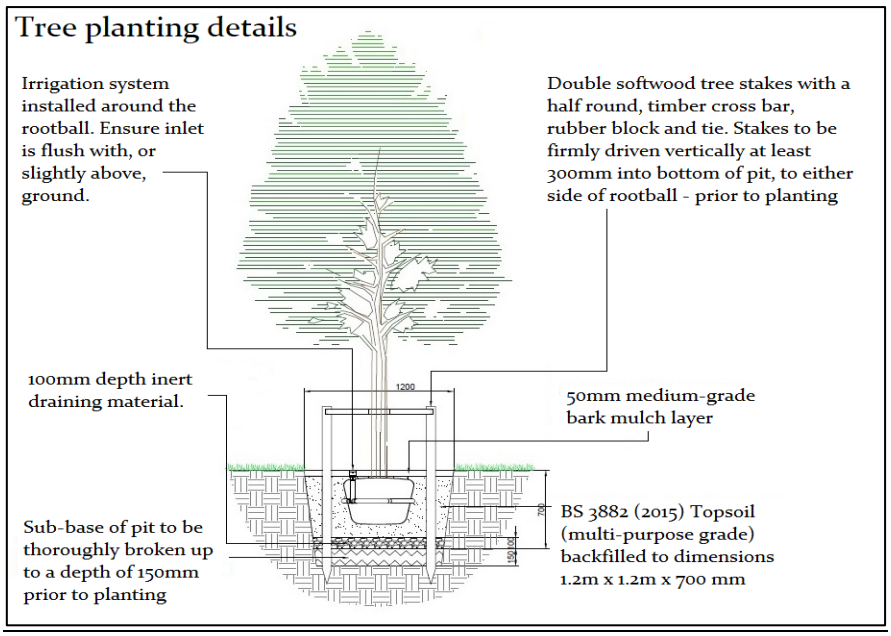
07957 763 53

Soft landscaping within or close to the Root Protection Areas (RPAs) of retained trees

The following precautions are necessary to avoid damage to trees (where activities are to take place within their RPAs):

- Ground levels will not be changed;
- Soil must be of good quality and free of contaminants and other foreign objects potentially injurious to tree roots. The topsoil must satisfy the requirements of BS3882:200;
- No heavy machinery will be operated within the RPAs of retained trees during the installation of soft landscaping;
- Unwanted vegetation shall be removed manually or by using systemic herbicide that will not damage tree roots;
- No fuels or chemicals shall be used or stored within these areas; and
- No irrigation or drainage pipes shall be installed within the RPAs

Tree planting



All tree planting operations shall be carried out in accordance with BS 8545:2014 Trees: from nursery to independence in the landscape Recommendations.

All planting stock shall comply with the requirements of BS 3936 and shall be healthy, strong with a good shape and strong root system (in accordance with the national plant specification). All native plants shall be of local provenance and be well-labelled as such.

Trees shall only be lifted from the ground between October and March and be handled and transported in accordance with the relevant codes of practice, with the roots kept moist and wrapped (in hessian for example) to protect them from adverse weather conditions.

All new trees are to be maintained until established. A 1 metre diameter area surrounding the tree will be kept free from grass, weeds and rubbish at all times. Mulched areas will be topped up as necessary to maintain 75mm depth.

Newly-planted trees are to be watered during April to September. The intervals between watering is to be fortnightly with additional visits if there has been no rainfall within a weekly period. If needed. watering bags will be filled with 90 Litres of water (for slow release) per visit. Any depressed or panned-down areas will be lightly forked.

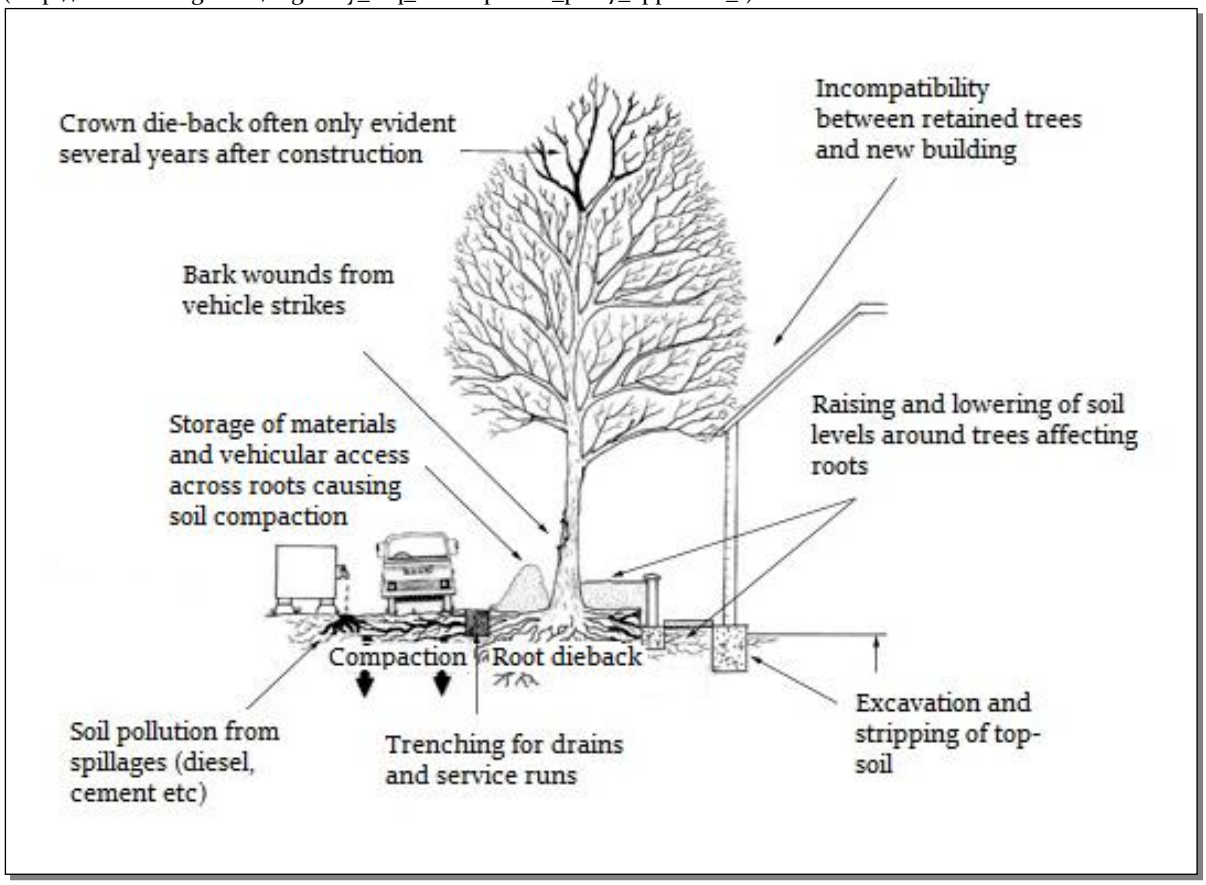
Each tree will be checked to make sure it is healthy before planting. All dead, damaged, crossing or diseased branches will be removed. Any arising suckers will be removed from the clear stem. Any wounds shall be neatly pared back to sound wood in accordance with BS 3998. Trees which have been loosened by the wind or frost shall be re-firmed.

Each stake and tie will be checked and adjusted, re-fixed or renewed as necessary to ensure that no damage occurs to any tree and that each tree is being supporting in the intended manner. All stakes and ties will be removed after two years / or after trees have rooted successfully.

Any tree or plant that fails to thrive or is below specification within a five-year period shall be replaced.

Appendix 5 – General precautions and further information

Figure 4: Common problems for trees on development sites
(http://www.leics.gov.uk/highway_req_development_part7_appendix_f)



5.1 Services and drainage: Surface run-off water shall be sent to existing drains and/or soakaways located outside the RPAs of retained tree(s). If trenching is required within the RPA of retained trees to provide routes for services, this work shall be undertaken using mole boring and / or hand digging (under arboricultural supervision).

5.2 Storage of materials: No materials or spoil are to be stored within areas protected by protective fencing and/or ground protection. The same applies for existing hard surfaces that are being used as ground protection.

5.3 Spillages: If any cement residues fall within root protection areas, it shall be swept up, bagged and removed from site – it shall <u>not</u> be washed away with water.

5.4 Demolition: Where any existing structures are to be demolished, they will be done so inwardly (away from root protection areas / retained soil).

5.5 Levels: There is to be no alteration of ground levels within the area protected by protective fencing and/or ground protection, unless previously specified and agreed upon. The same applies for existing hard surfaces that are being used as ground protection.

5.6 Fires: No fires are to be lit within 20 metres of the stems of retained trees.

5.7 Above ground damage to trees: Care must be taken in planning the location and operation of machinery to avoid above ground damage to trees. BS5837 (2012) Section 6.2.4.1 states '*Planning of site operations should take sufficient account of wide loads, tall loads and plant with booms, jibs and counterweights (including drilling rigs) in order that they can operate without contacting retained trees. Such contact can result in serious damage to trees and might make their safe retention impossible. Consequently, any transit or traverse of plant in proximity to trees should be conducted under the supervision of a banksman, to ensure that adequate clearance of trees is always maintained. Access facilitation pruning should be undertaken where necessary to maintain this clearance.*

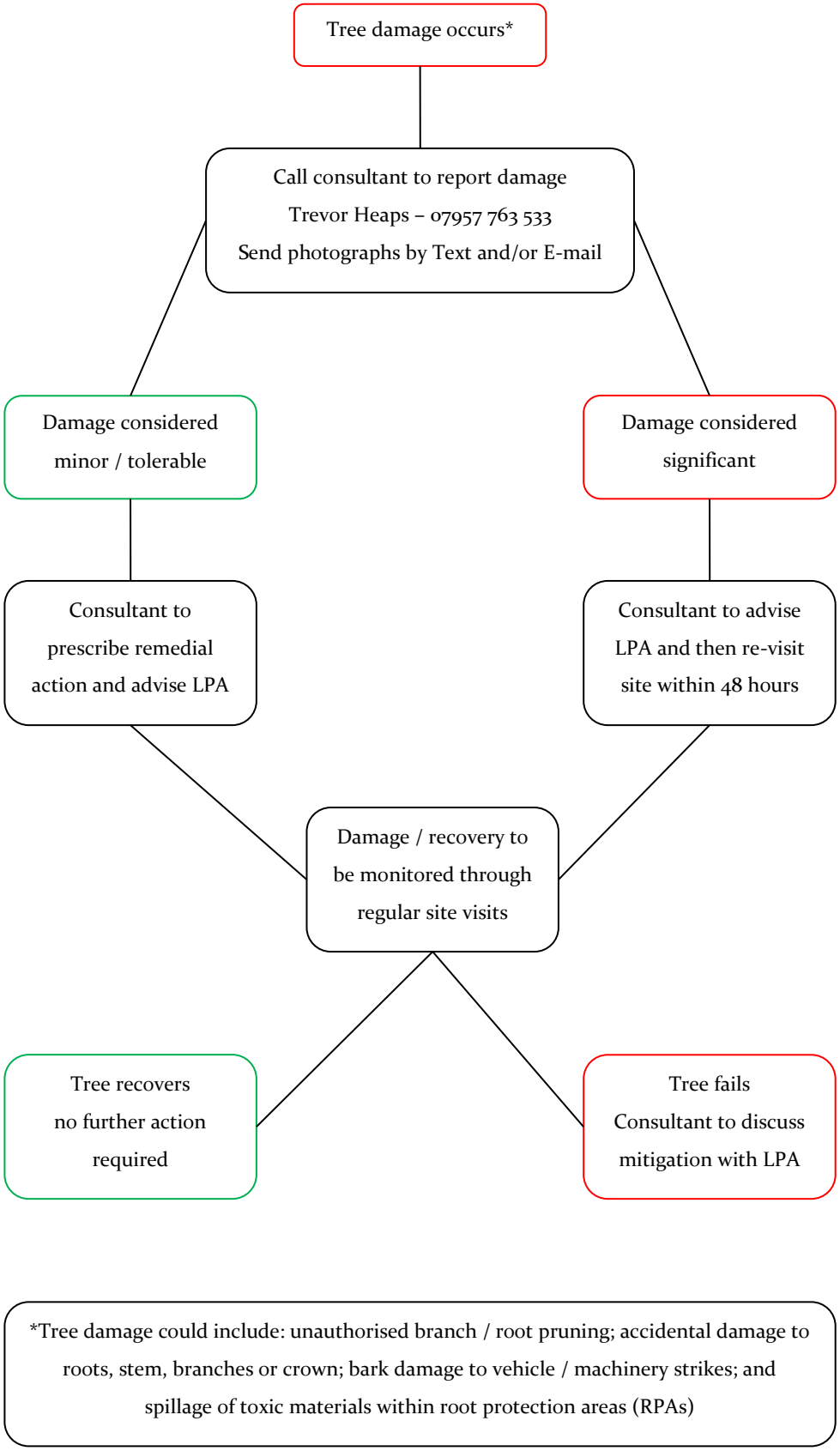
5.8 Remedial works and soil improvement: Exposed soils are easily compacted resulting in loss of water and gaseous exchange; this can lead to root death (and subsequently tree death).

5.8.1 To relieve ground compaction, which may have resulted from the use of vehicles or by the storage of materials, the soils should be broken up to allow air to penetrate and for the soil structure to be restored. There are various methods to achieve this, such as: auguring the soil by hand / fork or pneumatic excavation (e.g. with an air spade); both should be combined with soil structure improvements (see 5.8.2).

5.8.2 The soil structure can be improved by incorporating a compost or mulch within the topsoil, of 75-100mm in depth. This can be spread over the surface and gently forked into the soil. If bark chip is used as mulch, NPK fertilizer should be added to counteract the nitrogen depletion of the soil. There is also the option of adding mycorrhizal fungal which may also improve root function.

5.9 Choosing an arborist: When appointing a tree works contractor, please only use properly qualified and experienced companies who comply with current British Standards (3998) and always check that they carry Public Liability Insurance within a minimum of £2,000,000 cover, and the relevant Employers Liability Insurance. A list of contractors approved by the Arboricultural Association can be found at www.trees.org.uk or by calling 01242 522 152.

Appendix 6 - Procedure to follow in case of damage to retained trees



Appendix 7 - Induction form for all site personnel

Site name: .....

App. No.: .....

Appointed Site Supervisor: .....

- I have had explained to me by the Site Manager the key implications of the Arboricultural Method Statement relating to the development at the above site.

- I am aware that trees have shallow roots and any excavation works beneath the canopy could cause irreparable damage.

- I am aware that the tree protective fencing / ground protection must remain in its original position and must not be moved without the approval of the appointed Arboricultural Consultant.

- I understand that certain operations must be supervised by the appointed Arboricultural Consultant and that these must not start until the consultant is present and has given approval.

- I confirm that I will bring any concerns about potential damage to trees to the attention of the Site Manager.

- I am aware that I must not cause damage to any of the retained trees on or adjacent to the site. Damage may be caused by direct means (i.e. physical damage caused to roots or the trunk/branches of the tree) or by indirect means (e.g. by fire or toxic materials entering the rooting environment of the tree).

Print Name: .....

Sign Name: .....

Date: .....

Appendix 8 - Site inspection record

Date: Time:	Planning reference:
.....	.....
Site:	
.....	

Those present in addition to project arboriculturist:

Client / Agent: .....

Project / Site manager: .....

LPA arboricultural officer: .....

Other (specify): .....

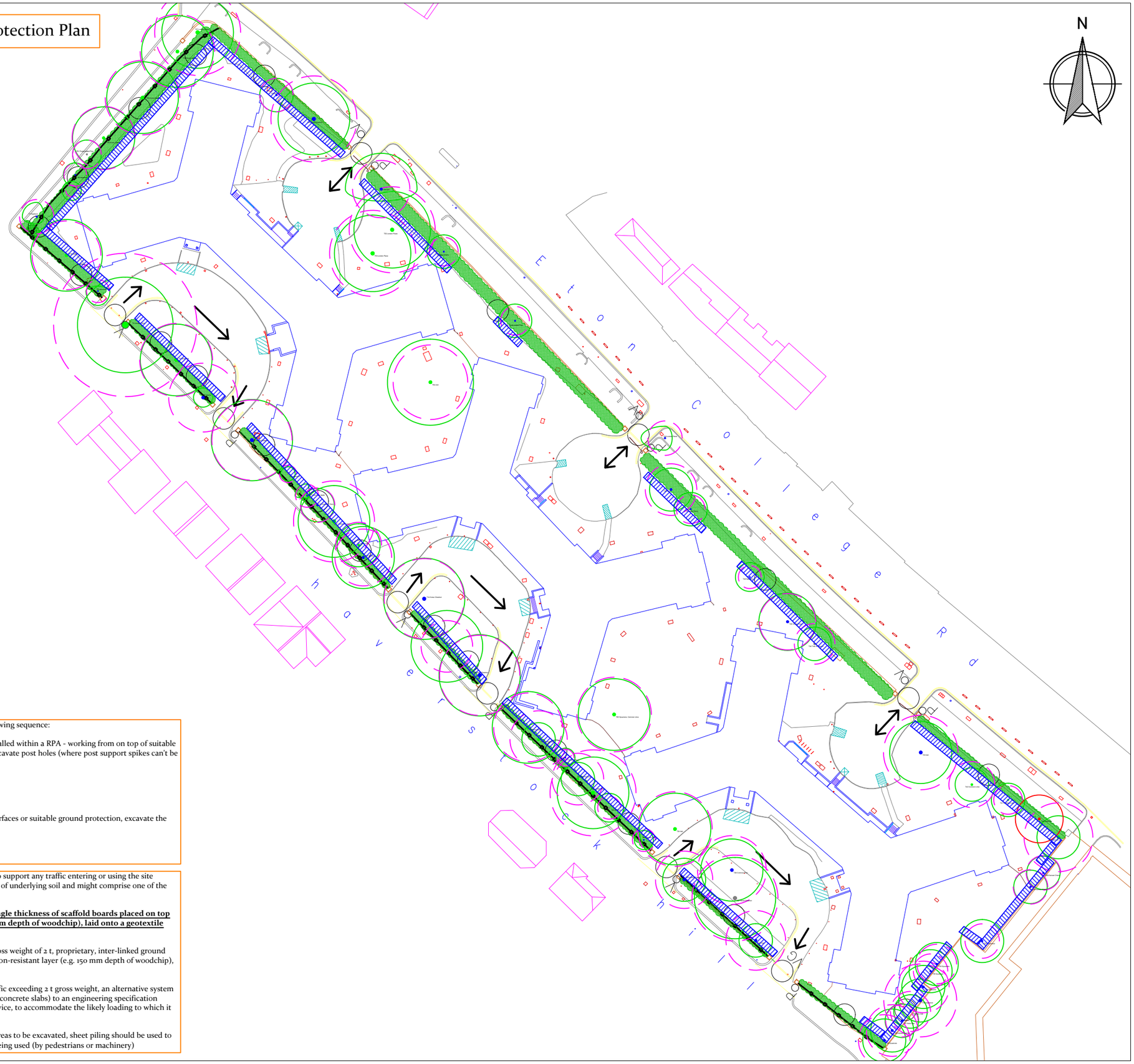
	Yes	No	Notes
Tree protection measures located in accordance with TPP?			
Any disturbance within construction exclusion zone?			
Any materials stored within construction exclusion zone?			
Any evidence of damage to tree roots, stems or canopies?			
Any works programmed before next planned site visit that may affect retained trees? (if yes, provide details below)			

Additional site visit required to ensure compliance with required action? (Y / N)

Proposed visit date:

Signed: Date:

Appendix 9: Tree Protection Plan



Plan Legend

- Tree/s to be retained
- Tree/s to be removed

Centre colours

- Category A Tree
- Category B Tree
- Category C Tree
- Category U Tree

Root Protection Area (RPA)
If amended, the original is a dotted blue circle

Ground protection

Ground protection is shown around much of the inner perimeter, but it only needs to be laid where each post hole is being hand-dug.

Scale: 1:1000 @ A3
0 20m 40m

Site Address: The Etons Development
Eton College Road, NW3 2BT

Client: Shellpoint Trustees Ltd
Drawing No: TH/A3/4674/TPP

Job Ref: TH 4674 | Date: 15/11/2024

Trevor Heaps
Arboricultural Consultancy Ltd

07957 763 533
trevor@trevorheaps.co.uk
www.trevorheaps.co.uk

At this site, operations are to occur in the following sequence:

1. For each fence post that needs to be installed within a RPA - working from on top of suitable ground protection or existing hard surfaces, excavate post holes (where post support spikes can't be used).

2. Install posts and chicken wire fencing.

3. Plant new hedging.

4. Working from on top of existing hard surfaces or suitable ground protection, excavate the various underground service trenches.

5. Carry out other landscaping works.

Temporary ground protection should be able to support any traffic entering or using the site without being distorted or causing compaction of underlying soil and might comprise one of the following:

1. **For pedestrian-movements only, a single thickness of scaffold boards placed on top of a compression-resistant layer (e.g. 100 mm depth of woodchip), laid onto a geotextile membrane;**

2. For pedestrian-operated plant up to a gross weight of 2 t, proprietary, inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150 mm depth of woodchip), laid onto a geotextile membrane;

3. For wheeled or tracked construction traffic exceeding 2 t gross weight, an alternative system (e.g. proprietary systems or pre-cast reinforced concrete slabs) to an engineering specification designed in conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected.

NOTE: If ground protection is to be laid near areas to be excavated, sheet piling should be used to shore up the sides of the excavations prior to being used (by pedestrians or machinery)

End of Report