

Evendine House Residential Home

Tree Survey & Preliminary Arboricultural Assessment (Tree Constraints Report)



Prepared by
Jerry Ross Arboricultural Consultancy

on the instructions of

kendricks
planning ltd

acting on behalf of

Mr & Mrs Bates
Evendine Lane, Colwall
Malvern WR13 6DT

Based on an inspection carried out by

Jon Mills N.Dip.Arb.

on

2nd August 2008



Jerry Ross Arboricultural Consultancy

J.P. Ross B.Sc. F.Arbor.A

The Old Pound, Llangarron,
Ross-on-Wye, Herefordshire. HR9 6PG

Tel/Fax: 01989 770383 Mobile: 07860 232308
e-mail – trees@jerryross.co.uk



1 INTRODUCTION:

- 1.1 Jerry Ross Arboricultural Consultancy was commissioned by John Kendrick, Planning Consultant, to carry out a tree survey and to prepare an arboricultural constraints report on behalf of Mr. & Mrs. Bates, owners of Evendine House Residential Home, Evendine Lane, Colwall. Our instructions were to visit the site and to make an inspection of the major trees, specifically those along the frontage, some of which were believed to be protected by a tree preservation order (TPO), but overall to assess tree with respect to an extension to provide additional accommodation for Evendine House proposed for the area between the existing building and the road frontage. The general methodology is as defined in BS5837:2005 for an Arboricultural Constraints Report (see section 4 below).
- 1.2 The site was initially visited by the principal, J.P. Ross, when the extent and scope of the survey was discussed with Mr. & Mrs. Bates; the trees understood to be potentially within influencing distance of the proposed extension included specimens within the curtilage of the property along its frontage to Evendine Lane and also to include an Oak, a Beech and two fruit trees to the west of the site (the latter three outside the site boundary) as well as trees near to the existing access. A number of trees further to the east have also been included as they may be of significance in terms of their position in the landscape, although at this time it appears they would not directly influence or be influenced by any proposed development. The initial visits attempted to correlate the trees present with those specified in the TPO (see section 2). A more detailed tree-by-tree assessment was carried out on 2nd August by Jon Mills. The results are summarised in the tree schedule (section 5).

2 TREE PRESERVATION ORDER

- 2.1 The tree preservation order "*County of Hereford (Colwall Green) TPO 1971 no. 44*" applies to this site. We have been provided with an extract of the First Schedule and also part of the TPO map, these being included here as Appendix 1. The order evidently includes trees and groups throughout Colwall Green, but only the group designated as G4 affects this site. This extends from the north-eastern corner of the boundary of Evendine house to the west, including all of the frontage to Cave's Folly to the west. The trees listed in the schedule are:
27 Larch, 5 Pine, 3 Elm, 1 Ash, 9 Silver Birch, 5 Holly, 2 Firs & 1 Cedar.
- 2.2 It should be noted that only those individuals listed in the 1972 schedule are protected and some difficulties arise in confirming the identities of these trees. Within the entire area covered by the group only approximately 15 Larch were located, two of which were dead. Only one Larch was found within the frontage of Evendine House (tree 5)¹. No Elms were found that were of an age to be those that were recorded in the TPO; two Birches were identified, one of which (tree 26) was dead. It is unclear if the other is old enough to be the one identified in the TPO. One mature ash (very extensively lopped) was observed near Cave's Folly; two Douglas Firs and one Cedar were found, all three within the Evendine House frontage (trees 20, 32 & 27 respectively). Numerous Hollies are present but most are multi-stemmed

¹ N.B. This tree is moribund or dead and could be a hazard to road-users: its removal is advised. Although as a 'dangerous' tree it is exempt from TPO protection, the LPA should be advised prior to felling.

groups and it is impossible to determine which of these the Order was intended to protect. Some SIX pines were identified (five Black Pines and one Scots).

- 2.3 We have attempted to identify within the table in section 5 of this report those trees that we believe are protected under the TPO; however there must be considerable uncertainty about the Hollies and, although we show the Scots Pine (tree 19 as *not* being covered by the TPO, in reality it is not possible to determine with certainty which of the six Pines present are the five identified in the TPO schedule. In practice all of the trees should be considered on their merit and how they are best treated should be determined on the basis of their present condition, their public amenity value and on their life expectancy.
- 2.4 Until such time that the local planning authority has clarified the situation, revising the 1971 order or revoking and issuing a new one, it would be prudent to consider all of the trees on the frontage as *potentially* being subject to protection. It is therefore advised that none be felled or otherwise cut back without the prior consent of the LPA.

3 METHODOLOGY

- 3.1 The report has been framed as an 'Arboricultural Constraints Report', as defined in BS5837:2005 - Trees in Relation to construction; recommendations. It therefore includes an assessment of the trees' general condition, both physiological and structural, and also considers their likely life expectancy along with various other factors. All assessments are based upon the site conditions as they existed at the time of our inspections. On the basis of the findings, each tree is allocated to a "retention category", this being intended to provide a guide as to its general suitability for retention being retained within site where development is proposed. In so doing, the trees are looked at from the point of view of their general condition and likely life-expectancy, but in addition some estimate is made of their value, specifically with regard to their overall amenity value but also taking into account matters such as their arboricultural quality, the degree to which they provide wildlife habitat and enhance local biodiversity, as well as considering any other social or cultural values that they may embody.
- 3.2 Also integral to the assessment as recommended by BS5837 is the calculation of Root Protection Areas (RPAs) for each of the trees in question. The RPA is defined as a "layout design tool indicating the area surrounding a tree that contains sufficient rooting volume to ensure the survival of the tree." In this regard, I must stress that the plan accompanying this report shows the nominal RPAs of the trees, indicated as circles centred upon the tree of a radius such that they enclose an area equal to the relevant RPA. In practice the distribution of roots around a tree will frequently prove to be uneven due to the presence of a variety of constraining influences. These may be physical barriers such as existing foundations etc, or the existence of localised soil conditions inhospitable to root growth, such as waterlogging or soil compaction. Conversely, soil conditions may be particularly conducive to root development in one quarter and this might also lead to an asymmetric distribution of roots around the tree. However in most cases the nominal circular areas as indicated will provide a reasonable guide as to where special measures will be required to protect tree roots and preserve good soil condition.

- 3.3 The RPAs of the trees will provide the basis for defining Construction Exclusion Zones (CEZs), these being areas around all of those trees intended to be retained where access should be prevented throughout the entire process of site preparation and construction. Protection should be afforded through the erection of fencing, constructed in accordance with BS5837:2005 (see Appendix 2); this should be erected around the CEZs prior to any work proceeding on the site should remain *in situ* until all works have been completed. Some activities within the CEZs may be acceptable but should not be put in hand until appropriate arboricultural advice has been sought.
- 3.4 It should be appreciated that this is a *preliminary* report, provided to facilitate the development of a suitable layout that takes full account of the constraints created by trees on and around the site. It is *not* a finalised Tree Protection Plan nor an Arboricultural Implication Assessment, as these can only be produced once a layout has been finalised.
- 3.5 Mr Mills' inspection was carried out on the 2nd August 2008 and it was made from ground level only. Weather conditions were overcast and visibility was adequate throughout for the purposes of this investigation. Only those features apparent at the time of the inspection could be considered and no liability can be accepted regarding trees or their parts that were inaccessible or obscured in part or in whole. It should be stressed that, although the health and safety of the trees is part of the assessment methodology used, this report is intended for planning purposes only; *it should not be construed as an assessment of tree safety*. Faults may be identified and recorded as part of this study but no management recommendations will normally be made and it remains the client's responsibility to take appropriate action. The assessor can accept no liability for damage or injury sustained as a result of the failure of any tree or its parts.
- 3.6 Note that the tree location & constraints plan that accompanies this report is based upon an Ordnance Survey base map supplied for the purpose by Stanton King Associates. The tree positions as indicated are plotted *by eye only* and while this was done as accurately as possible, detailed scaling from the tree location plan should not be attempted. Wherever tree locations may be critical (such as in determining tree protection areas and construction exclusion zones on the ground, further on-site measurements must be made.

4 The Site: General Observations.

- 4.1 The site is located on the western side of the Malvern Hills and east of Colwall Green. It is in a rural setting surrounded by agricultural land that is generally well provided with trees. Evendine House itself is set some way back from the road. It is my understanding that the area between the house and the road, which is currently an area of lawn, is proposed to be used for the extension, retaining the existing drive to the east. This provides access of Evendine Lane, which is a minor road with limited volumes of traffic.

5 Notes on the Terms used in Tree Schedule.

- 5.1 An ID no. has been given to each individual tree itemised in the tree schedule. This is distinct from any other designation (for instance as used in the TPO). Trees believed to be protected by TPO are indicated after their species name; *note, however, the comments on the TPO made in section 2 above.*
- 5.2 The dimensions taken are:
- **HEIGHT**, estimated and expressed in metres.
 - **STEM-No.** indicates the number of main stems (i.e. whether the trunk divides at or below 1.5m).
 - **DIAMETER** (in centimetres): obtained from the girth measured at approx.1.5m. For trees with 2 or 3 sub-stems a notional figure is derived from the sum of their cross-sectional areas. For multi-stemmed trees (indicated by the letter 'M') the diameter is taken (or estimated where measurement is impractical) at the base of the tree, just above the region of root-flare. "
 - The **CROWN SPREAD** is expressed in terms of the crown radii estimated at the four cardinal points and given in metres.
 - **CLEARANCE** is an estimate of the average distance between ground level and the lower canopy; this may vary widely around a tree and must be regarded as indicative only.
- 5.3 **MATURITY** is defined as follows:
- P* - sapling, or recently Planted: A tree that is still establishing and which would be relatively easy to replace or even transplant. Likely to be vulnerable to damage from (e.g.) strimmers, mowing equipment, drought, vandals, etc.
 - Y* - Young, establishing trees. Should be growing fast, usually primarily increasing in height more than spread, but as yet making limited impact upon the landscape.
 - EM* - Early-Mature. Established young trees, normally of good vigour and still increasing in height, but beginning to spread laterally. Beginning to make an impact upon the local landscape & environment.
 - M* - Mature: Well-established trees, still growing with some vigour, but tending to fill out and increase spread. Bark may be beginning to crack & fissure. In the middle half of their safe, useful life-expectancies.
 - LM* - Late-Mature: In full maturity. Still retaining some vigour but growth slowing.
 - O* - Old: Fully mature with vigour declining. Likely to possess features that could be regarded as potential faults, such as large, ponderous branches, old wounds etc. etc., but also likely to be of high amenity value.
 - A* - Ancient: "Veteran" trees. Old trees can survive for very many years, with healthy growth continuing although the tree may be of low vigour. Crown size usually becomes reduced, either through natural branch-loss or through management (e.g. pollarding). Decay is usually present. Such trees may represent a significant hazard, but they are also likely to be of considerable conservation value.
- 5.4 **PHYSIOLOGICAL CONDITION:** Essentially a snapshot of the general health of the tree based upon its general appearance, its apparent vigour and the presence or absence of symptoms associated with poor health, physiological stress etc. (Fungal *disease* may be recorded here but *decay giving rise to structural weakness* would be recorded under 'Structural Condition' – see next parameter):
- Good - no significant health issues
 - Fair - indications of slight stress or minor disease (e.g. the presence of minor dieback/deadwood or of epicormic shoot growth)

- Poor - Significant stress or disease noted; larger areas of dieback than above
- Bad - Severe decline; widespread dieback and/or severe stress; life-threatening disease.
- Dead (or Moribund)

5.5 **STRUCTURAL CONDITION:** Defects affecting the structural stability of the tree, including decay, significant dead wood, root-plate instability or significant damage to structural roots, weak forks (e.g. those where bark is included between the members) etc. etc. Classified as:

- Good - No obvious structural defects: basically sound
- Fair - Minor, potential or incipient defects
- Poor - Some significant defects likely to lead to actual failure in the medium to long-term
- Bad - Defects liable to cause significant failure in the short term, or to lead to a major or total collapse in the foreseeable future
- Severe - Tree that has already suffered or is at imminent risk of a major collapse.

5.6 **LIFE-EXPECTANCY:** An estimate of the length of time in years that a tree might be expected to continue to make a useful contribution to the locality at an acceptable level of risk (based on an assumption of continued maintenance).

- V - Less than 10 years
- S - 10-20 years
- M - 20-40 years
- L - more than 40 years.

5.7 **RETENTION CATEGORY:** Trees are classed as category **R**, **A**, **B** or **C**, based on criteria given in BS5837:2005; summary definitions as follow (see BS5837 for further details). Categories A, B and C are further characterised by the use of sub-categories: (i) refers to qualities of the tree of an arboricultural nature, (ii) indicates qualities concerned primarily with their situation within the landscape and (iii) refers to other values such as those of a cultural, historic or ecological nature. Examples of these qualities for each of the three categories are given below, although these are indicative only.

Note: This is NOT a health and safety classification; the classification does not take into account any requirement for remedial tree care or ongoing maintenance apart from that which may affect the trees' general suitability for retention.

- R REDUNDANT TREES (★):** Defective, poor or negligible specimens, not worthy of retention within a developed site. Trees whose existing value would be lost within 10 years, or which should be removed on grounds of sound arboricultural management (e.g. trees that will be left unstable by other essential works; poor quality that are trees suppressing better specimens.)
- A HIGH RETENTION VALUE (●):** Important or valuable trees or groups of trees that are likely to make a substantial contribution to the locality for 40 years or more.
 - (i) *Notably fine specimens; rare or unusual specimens; essential component trees within groups, semi-formal or formal plantings (e.g. dominant trees within an avenue etc.)*
 - (ii) *Trees, groups or woodlands of particular screening benefit in relation to views into and out of the site; those of notable visual importance (including avenues & other features that may be assessed collectively as groups)*
 - (iii) *Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees)*
- B MODERATE VALUE (■):** Trees or groups of some importance and likely to make a significant contribution for in excess of 20 years.

- (i) *Fair quality but not notably fine; good specimens showing some impairment (e.g. remediable defects, minor storm damage or poor past management.)*
- (ii) *Numbers of trees, groups or woodlands forming distinct landscape features that are of higher collective value than they would warrant as individuals (e.g. non category A trees within avenues). Also trees internal to the site that are of little visual impact within the wider locality.*
- (iii) *Trees, groups or woodlands with clearly identifiable conservation or other cultural benefits.*

C MINOR VALUE (▲): Trees or groups of rather low quality, but capable of retention for at least approx. 10 years, e.g. until new planting is established. *Also* small, young trees (below 15cm diam) whose loss would be easily mitigated by new planting, or which would be capable of transplanting.

- (i) *Retainable (for the present), but not trees that represent a significant constraint*
- (ii) *Secondary specimens within groups or woodlands whose loss would not greatly diminish their landscape value; trees providing only minor or short term screening benefit*
- (iii) *Trees with very limited conservation or other cultural benefit.*

5.8 ROOT PROTECTION AREA (RPA): This is the area in square metres formed by a circle of radius (*the Protection Radius*) twelve times the effective stem diameter of the tree (or, for multi-stemmed trees, 10 times the basal diameter).

Note that the circles shown on the tree constraints plan represent the *nominal* RPAs; the configuration of the final RPAs may not correspond with these circles (see 3.1 above).

The figure given as the RPA in the tree schedule represents the minimum area of soil that the tree is considered to require in order to support a healthy and effective root-system; it is the basis whereby the layout of the **Construction Exclusion Zone (CEZ)** is determined. This should encompass an area equal to the RPA but its form may be adapted in the light of arboricultural considerations and pre-existing physical constraints.

The CEZ should be protected by sturdy temporary fencing throughout the entire process of site preparation and construction. (see Appendix 2 & BS5837:2005)

Report prepared by

Jonathan Mills N.Dip.Arb &
J.P. Ross B.Sc. F.Arbor.A.

12 August 2008

Arboricultural Constraints Report

SECTION 5: TREE SCHEDULE

ID	Species	Height (m.)	Stem No.	Diam (cm)	CROWN SPREAD				Clearance(m)	Maturity	Physiological Condition	Structural Condition	Life Expect	CATEGORY	Notes	Protection Radius (m)	RPA (m ²)
					N	E	S	W									
1	Copper Beech	15	1	68	6	7	7	7	3	M	G	G	L	B (i)	Well established tree growing just beyond site boundary; currently a significant specimen, which has the potential to develop into a significant landmark tree.	8.2	211
2	Cherry	9	1	36	2	1	6	2	2	O	P	P	V	R	Very sparse crown, mass of dead branches throughout its asymmetrical crown to south. Located in neighbouring field near to the boundary; this tree is in general decline and cannot be regarded as a planning constraint.	4.3	58
3	Cherry	17	1	45	2	4	7	5	2	M	P	F	M	C (iii)	This tree is partly suppressed by the large Oak (id no 4) that overshadows it. Located in the neighbouring field this tree also appears to be in decline, as there are many dead branches throughout crown	5.4	92
4	Oak	19	1	103	8	8	8	8	3.5	M	G	G	L	A(i)	Large landmark tree located near the boundary line. Not scheduled in the Tree Preservation Order and in very good health.	12.4	483
5	Larch (TPO G4)	14	1	32	–	–	–	–	–	–	–	–	–	R	Moribund or dead tree (thus now exempt from TPO protection). Located near to the road, its safe removal without undue delay is advised.	-	-
6	Holly	10	15	Av. 24	5	6	4	5	2	M	G	F	L	B(ii)	Within the Group TPO. Tree consists of 15 stems with an average diameter of 24cm. (Two of these stems extend over road; their reduction or removal is advised).	3.8	45
7	Yew	7	1	42	3	3	3	3	1	YM	G	G	L	C(ii)	Small tree established under pine trees.	5	79
8	Black (Austrian) Pine. (TPO G4)	24	1	78	5	3	5	5	9	M	G	G	L	A(ii)	A large, prominent, mature tree; with tree 11, a significant specimen with respect both to the grounds and to the road..	9.4	278
9	Holly	6	1	20	1	1	1	1	1	YM	G	G	L	C(ii)	Small tree near to summer house.	2.4	18

Arboricultural Constraints Report

SECTION 5: TREE SCHEDULE

ID	Species	Height (m.)	Stem No.	Diam (cm)	CROWN SPREAD				Clearance(m)	Maturity	Physiological Condition	Structural Condition	Life Expect	CATEGORY	Notes	Protection Radius (m)	RPA (m ²)
					N	E	S	W									
10	Holly (TPO G4?)	6	1	32	3	2	1	1	1	YM	G	G	L	C(ii)	(Possibly one of the 5 Holly trees listed in the TPO as G4)	3.8	45
11	Black (Austrian) Pine. (TPO G4)	25	1	103	6	5	10	8	2	LM	G	G	L	A(ii)	Asymmetric crown with large boughs extending out to the south over the lawn area; a prominent specimen, with tree 8.	12.4	483
12	Nootka Cypress	16	1	84	5	4	5	4	0	M	G	G	L	B	Stem forks at 0.3m making stem diameter below fork unusually large for the top height of tree. Lower limbs spread out towards lawn. (N.B. Although within the area of TPO G4, it is <i>not</i> listed within the schedule as a protected specimen.)	10.1	320
13	Apple	6	1	20	4	2	1	1	1	M	G	G	L	C(ii)	Small tree located on the steep bank down to the road, on north side of boundary.	2.4	18
14	Scots Pine	15	1	42	3	3	3	3	4	M	G	G	L	C(ii)	Form of tree (with crown rounded off) suggests a slow down in growth over recent years; the tree is unlikely to attain a significantly greater height or to improve substantially. (Status with regard to TPO group G4 uncertain.)	5	79
15	Cedar (TPO G4)	18	1	68	6	2	3	2	7	M	G	F	L	R	A very large area of the trunk is dead and decayed at base, perhaps amounting to 70% of whole. The upper crown is small and therefore there is a limited risk of failure at this time; however should the usage of the area around the tree increase significantly, the tree's removal would be recommended.	12	452
16	Black (Austrian) Pine. (TPO G4)	21.8	1	77	4	3	8	2	3	M	G	G	L	B(i)	Part of prominent group by road near entrance. Large limb extending to the south causes some crown asymmetry.	9.2	266
17	Black (Austrian) Pine. (TPO G4)	23	1	75	3	2	6	3	7	M	G	G	L	B(i)	Large mature tree. (Part of prominent group by road near entrance.)	9	254
18	Black (Austrian) Pine. (TPO G4)	23	1	67	5	2	6	6	4	M	G	G	L	B(i)	Large mature tree. (Part of prominent group by road near entrance.)	8	201

Arboricultural Constraints Report

SECTION 5: TREE SCHEDULE

ID	Species	Height (m.)	Stem No.	Diam (cm)	CROWN SPREAD				Clearance(m)	Maturity	Physiological Condition	Structural Condition	Life Expect	CATEGORY	Notes	Protection Radius (m)	RPA (m ²)
					N	E	S	W									
19	Scots Pine	13	1	54	3	2	5	3	3	M	G	G	L	C(ii)	Large low limb over garden and two storm damaged limbs within crown that are alive and still attached but hung up. Moderately significant within grounds but limited public amenity. Some degree of crown re-shaping through pruning would be possible	6.5	133
20	Douglas Fir. (TPO G4)	19	1	48	3	3	3	3	5	M	G	G	L	C(i)	Well established tree; fair condition and still capable of considerable growth.	5.8	106
21	Holly (TPO G4?)	8	M	Av. 15	3	3	3	3	1	YM	G	G	L	C(ii)	Group of 10 stems growing very close together. (Status in TPO unclear)	3	28
22	Holly (TPO G4?)	13	1	26	2	2	2	2	2	YM	G	G	L	C(ii)	Mature tree at the start of the Holly hedgerow. (Status in TPO unclear)	3.1	30
23	Thuja (Western Red Cedar)	19	1	54	3	3	3	3	2	M	G	G	L	C(i)	Substantial established tree.	6.5	133
24	Purple Leaved plum	9	1	29	2	0	1	6	2	LM	G	P	S	R	Decay present at base. Very asymmetrical crown to the west due to the presence of the Thujas (id no. 23 & 24) nearby	3.5	38
25	Thuja (Western Red Cedar)	19	1	53	3	3	3	3	1	M	G	G	L	C(i)	Substantial established tree.	6.4	129
26	Silver Birch	13	2	-	-	-	-	-	-	-	-	-	-	R	Dead tree, fell.	-	-
27	Cedar	22	1	78	6	5	5	4	4	M	G	G	L	B(i)	Maturing tree with the potential to become a very large feature tree. (well away from proposed development area)	9.4	278
28	Wild Cherry	9	2	23 & 24	1	4	6	4	2	YM	G	F	M	R	Suppressed by cedar; one stem split and damaged. (Unlikely to develop fully due to the presence of the cedar.)	-	-

SECTION 5: TREE SCHEDULE

ID	Species	Height (m.)	Stem No.	Diam (cm)	CROWN SPREAD				Clearance(m)	Maturity	Physiological Condition	Structural Condition	Life Expect	CATEGORY	Notes	Protection Radius (m)	RPA (m ²)
					N	E	S	W									
29	Cedar	23	1	58	4	5	5	5	3	M	G	G	L	B(i)	As 27 – a maturing tree with the potential to become a very large feature tree.	7	154
30	Holly	14	1	26	1	1	1	1	1.5	M	G	G	L	C(ii)	Slight lean to the north. Suppressed by the mature Cedar tree growing above.	3.1	30
31	Sweet Gum (Liquidamber)	10	1	25	2	4	0	2	3	YM	G	G	L	C(i)	Tree has asymmetrical crown to the east due to the Cedar tree; stem and upper crown smothered by ivy, which needs to be removed.	3	28
32	Douglas Fir (TPO G4)	20	1	47	4	2	3	3	4	M	G	G	L	C(i)	Healthy tree near road on boundary.	5.6	99
33	Holly hedge (TPO G4?)	6	M	Ave 20	2		2		0	M	G	G	L	B	Boundary hedge; Hazel and other small trees also present. TPO status of Hollies unclear.	2.0	
34	Cherry	7	1	20	2	1	3	1	2	Y	G	G	L	C	Small amenity tree.	2.4	18
35	Yew	5	1	13	2	2	2	2	0	Y	G	G	L	C	Young yew tree	1.6	8
36	Cherry	8	1	17	3	1	2	2	1	YM	G	G	M	C	Ornamental tree in early maturity.	2	13
37	Hawthorn	5	1	23	3	3	3	2	2	M	G	G	L	C	Small amenity tree.	2.8	25
38	Maple	3	1	11	1	1	1	1	2	P	G	G	L	C	Young newly established tree.	1.3	5
39	Silver Birch	15	1	29	3	3	3	3	2	M	G	G	L	C	Tree in good condition and with good form.	3.5	38

Extract from First Schedule of TPO: (*Group G4 only refers to trees at Evendine House*)

FIRST SCHEDULE

Trees Specified Individually
(encircled in black on the map)

<u>No. on Map</u>	<u>Description</u>	<u>Situation</u> In the Parish of Colwall O.S. Parcel(s)
T.1	Thuya	612
T.2	Ash	613
T.3	Ash	Boundary 612/636a
T.4	Oak	Boundary 638/612
T.5	Sycamore	Boundary 612/632
T.6	Elm	Boundary 613/612
T.7	Ash	642
T.8	Horse Chestnut	638
T.9	Copper Beech	Boundary 638/645
T.10	Ash	642
T.11	Sycamore	649
T.12	Horse Chestnut	650
T.13	Yew	Boundary 662/658

Trees Specified by References to an Area

- None -

Groups of Trees
(within a broken black line on the map)

<u>No. on Map</u>	<u>Description</u>	<u>Situation</u> In the Parish of Colwall O.S. Parcel(s)
G.1	Group consisting of 5 elm	Boundary 613/612
G.2	Group consisting of 3 horse chestnut	613
G.3	Group consisting of 2 oak and 1 lime	Boundary 629/662
G.4	Group consisting of 27 larch, 5 pine, 3 elm, 1 ash, 9 silver birch, 5 holly, 2 firs and 1 cedar	639, 643 and 642
G.5	Group consisting of 2 oak	650
G.6	Group consisting of 3 elm	651
G.7	Group consisting of 2 elm	660

Woodlands

- None -

H. ADAMS A.M.T.P.I., Dip.T.P.(LEEDS)
COUNTY PLANNING OFFICER,
HEREFORDSHIRE COUNTY COUNCIL

APPENDIX 2: The Protection of trees on construction sites: Barriers & Ground Protection

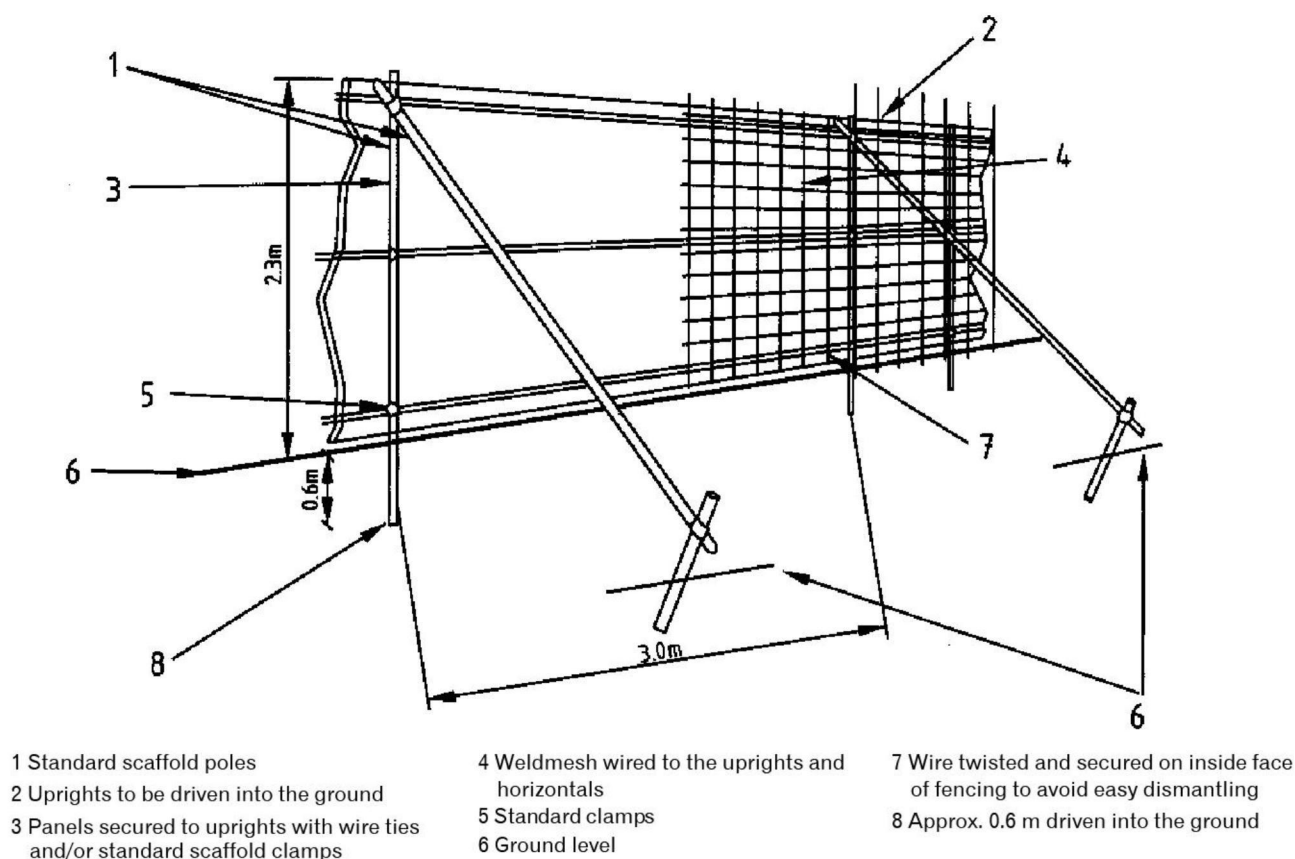
[Including extracts from BS5837:2005 - Trees in Relation to construction – Recommendations.]

A construction exclusion zone should be established around all trees intended for retention, based upon the Root Protection Areas (RPAs) of those trees. These zones should be adequately protected by appropriately designed protective barriers & ground protection throughout the entire development process.

PROTECTIVE BARRIERS

- Vertical barriers should be erected and ground protection installed **before any materials or machinery are brought onto the site and before any demolition, development or stripping of soil commences**. Areas of new or retained structure planting should be similarly protected, based on the extent of the soft landscaping as shown on the approved drawings.
- Once erected, barriers and ground protection should be regarded as **sacrosanct**, and should not be removed or altered without prior recommendation by an arboriculturist and approval of the local planning authority.
- In the case of particularly vulnerable trees or trees sited close to the construction access, the owner or developer should make arrangements for an arboriculturist to supervise necessary works and the erection of protection before the handover of land to the contractor.
- Pre development tree work may be undertaken before the installation of tree protection, where required, with the agreement of the local planning authority.
- Barriers should be fit for the purpose of excluding construction activity and appropriate to the degree and proximity of work taking place around the retained tree(s). On all sites, special attention should be paid to ensuring that barriers remain rigid and complete.
- In most cases, barriers should consist of a scaffold framework in accordance with the illustration below, comprising a vertical and horizontal framework, well braced to resist impacts, with vertical tubes spaced at a maximum interval of 3m. Onto this, weldmesh panels should be securely fixed with wire or scaffold clamps. Plywood or similar panels may be appropriate in some cases, provided they are adequately secured in a manner similar to that illustrated.
- Note that Weldmesh panels on rubber or concrete feet (as used in 'Heras' fencing') are not resistant to impact and should not be used. Lightweight barriers such as split-chestnut paling and plastic security fencing are also considered unsuitable for this purpose as they are insecure and are too easily moved and damaged.
- It may be appropriate on some sites to use temporary site office buildings as components of the tree protection barriers.

Recommended design of Protective barrier



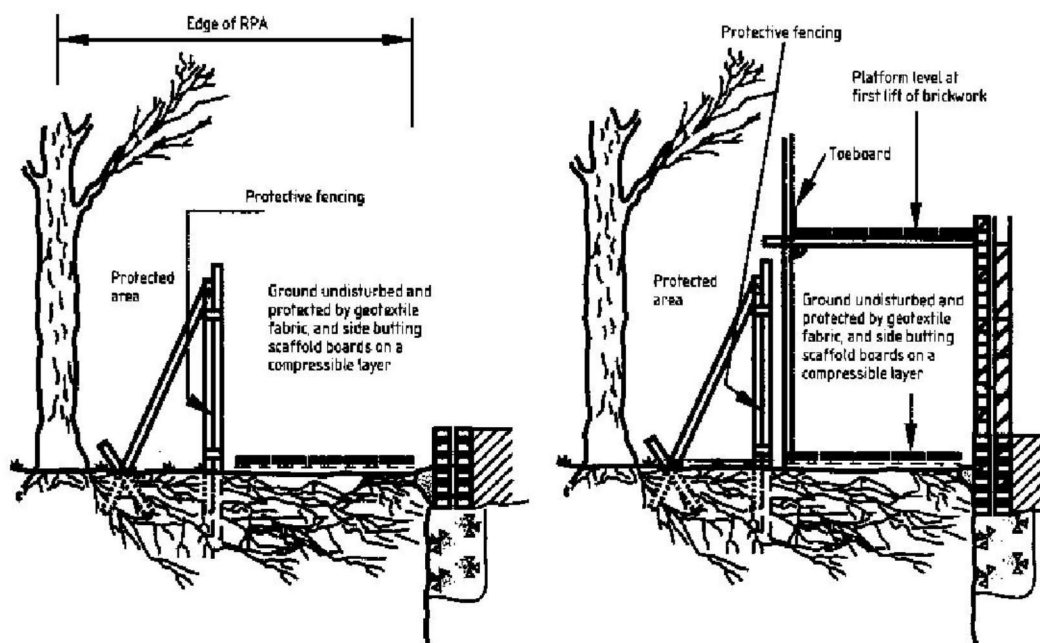
APPENDIX 2: The Protection of trees on construction sites: Barriers & Ground Protection

[Including extracts from BS5837:2005 - Trees in Relation to construction – Recommendations.]

GROUND PROTECTION

- Where it has been agreed during the design stage, and shown on the tree protection plan, that vehicular or pedestrian access for the construction operation may take place within the root protection area (RPA), the possible effects of construction activity should be addressed by a combination of barriers and ground protection. The position of the barrier may be shown within the RPA at the edge of the agreed working zone but the soil structure beyond the barrier to the edge of the RPA should be protected with ground protection.
- For pedestrian movements within the RPA the installation of ground protection in the form of a single thickness of scaffold boards on top of a compressible layer laid onto a geotextile, or supported by scaffold, may be acceptable

Scaffolding within the RPA:



- For wheeled or tracked construction traffic movements within the RPA the ground protection should be designed by an engineer to accommodate the likely loading and may involve the use of reinforced concrete slabs or proprietary systems (such as those utilizing cellular confinement 'geogrid' materials, e.g. CellWeb" marketed by Geosynthetics Ltd; "Geocell" distributed by Terram Ltd. and "Geoweb" marketed by Buildbase Ltd..

ADDITIONAL PRECAUTIONS OUTSIDE THE EXCLUSION ZONE

- Once the exclusion zone has been protected by barriers and/or ground protection, construction work can commence. All weather notices should be erected on the barrier with words such as:

Construction exclusion zone - Keep out

In addition the following should be addressed or avoided.

- Care should be taken when planning site operations to ensure that wide or tall loads, or plant with booms, jibs and counterweights can operate without coming into contact with retained trees. Such contact can result in serious damage to them and might make their safe retention impossible. Consequently, any transit or traverse of plant in close proximity to trees should be conducted under the supervision of a banksman to ensure that adequate clearance from trees is maintained at all times. In some circumstances it may be impossible to maintain adequate clearance thus necessitating access facilitation pruning.
- Material which will contaminate the soil, e.g. concrete mixings, diesel oil and vehicle washings, should not be discharged within 10 m of the tree stem.
- Fires should not be lit in a position where their flames can extend to within 5 m of foliage, branches of trunk. This will depend on the size of the fire and the wind direction.
- Notice boards, telephone cables or other services should not be attached to any part of the tree.
- It is essential that allowance should be made for the slope of the ground so that damaging materials such as concrete washings, mortar or diesel oil cannot run towards trees..

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Notes on Roads Paths & Driveways near Trees.

[See also BS5837:2005 (Trees in Relation to construction – Recommendations) & the "Arboricultural Practice Note APN1 Driveways near Trees, published by the Arboricultural Advisory & Information Service]

Tree roots are concentrated in the upper metre of the soil, with the great majority 300-600 mm below the soil surface. Beyond 3 or 4 metres from the trunk most of the roots are small in diameter and not readily apparent as originating from trees. They are nevertheless vital to the tree's well-being, as well as being very easily damaged by even rather shallow soil disturbance, such as may be required in establishing a path or driveway.

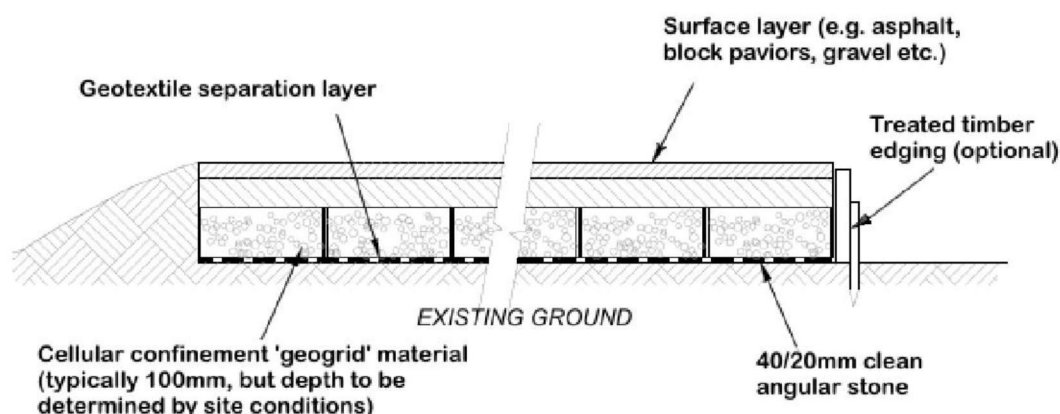
Wherever possible paths etc should be routed well outside the Root Protection Area (RPA), when problems should not arise. Note, however, that the position of a path or road on a layout plan may indicate the surface only:

Allowance must be made for any kerbing, and the footing into which kerbs will be set, when considering possible conflicts between trees and nearby paths, roadways etc.

Where there is no alternative other than for such a route to impinge upon the RPA of a tree, the possibility of damage can be significantly reduced through the use of No-Dig techniques, where an adequately load-bearing and hard-wearing surface is established over existing roots without them being damaged.

- If necessary, existing surface vegetation should be killed using an *appropriate herbicide* that will not leach into the soil and will not affect tree roots. All herbicides must be applied strictly in accordance with the manufacturer's instructions.
- Loose organic matter and/or turf should be removed carefully, using hand tools. If the surface needs to be levelled this should be achieved using a suitable granular fill material (e.g. no-fines gravel, washed aggregate etc.)
- Roots must not be severed; soil surfaces should not be skimmed and the soil must not be compacted
- Treatments must allow for the free diffusion of gases through the soil. Impermeable surfaces should not be applied to an area greater than 20% of the RPA; they should be restricted to a maximum width of 3m and situated tangentially to one side of the tree only.
- Where load-bearing surfaces are required it is likely that a 'load suspension layer' will need to be installed. Proprietary systems are available that involve the use of a load-bearing, 'cellular confinement' systems, designed to support roads on soft ground. Examples of such products include "CellWeb" marketed by Geosynthetics Ltd.², and "Geocell", distributed by Terram Ltd.² and "Geoweb" marketed by Buildbase Ltd.³ A range of high tensile synthetic 'geogrid' products is also manufactured by Tensar International⁴. Such products, if necessary used in combination with an appropriate aggregate sub-base or fill, can permit a suitable bearing surfaces to be created, lying over undisturbed root-bearing land.

A sectional drawing of a typical construction is given below.



The details of design and specification should be set out by an engineer with knowledge of the bearing capacity of the existing soil strata, working in conjunction with an arboriculturist.

² Website:- www.geosyn.co.uk

³ Website:- <http://tinyurl.com/yoyab4>

² Website:- www.terram.com

² email: customerservice@tensar.co.uk