

**Arboricultural Report
BS5837:2012 Trees in Relation to
Design, Demolition and Construction
- Recommendations**

**33 Chester Road
Gresford
Wrexham
LL12 8NU**

**Document Ref: CRG_0824_5837
Date: 29/08/2024
Prepared By: Matt Bardsley**

**Tree Hazard Inspections • BS5837 Trees on Development Reports • Planning Advice
Tree Preservation Order Applications • Tree & Woodland Management Plans
Planting Plans • House Buyer Reports**



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Ref.	Revision date	Type of revision	Prepared by
CRG_0824_5837	29/08/2024	First issue	Matt Bardsley

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Preamble

BS5837 is the British Standard for the protection and retention of trees on a proposed development site and is titled **5837:2012 “Trees in relation to design, demolition and construction – Recommendations”**.

BS5837 provides recommendations on how trees should be assessed and which of those trees should be protected during development together with how that protection will be achieved.

A BS5837 report will serve two primary functions-

- 1) To help the Local Planning Authority assess the likely impacts of the development on the trees growing on and around the site and how any proposed changes may affect the character of the area.
- 2) To aid the developer in knowing which trees should be considered as a constraint and how the development can co-exist with those trees.

With the above in mind, this report has been commissioned for the purpose of providing an assessment of trees growing at 33 Chester Road, Gresford and has been prepared in accordance with the guidance specified in BS5837:2012 *Trees in Relation to Design, Demolition and Construction – Recommendations*.

The following report consists of three main components as prescribed in the British Standard and as detailed below.

1. The **Tree Survey** records all the relevant information required when assessing trees for retention, including any impacts the proposed development may have. In accordance with BS 5837 the Tree Survey also provides details of those trees adjacent to the site which may be affected, or which are considered as growing within influencing distance of the development. However, to a certain degree information relating to neighbouring trees may be dependent on access. This section should be read in conjunction with the **Tree Survey Data Sheets** (Appendix 2) and the **Tree Location Plan**, (Appendix 8), which identifies the location of all the trees which may be affected.
2. The **Arboricultural Impact Assessment** provides an insight into what impact any proposed development may have on the trees within and immediately adjacent to the site. The Arboricultural Impact Assessment should be read in conjunction with the **Tree Constraints Plan**, (Appendix 9). The Tree Constraints Plan shows each tree's crown spread colour coded to its retention category with the root protection area identified in grey.
3. The **Arboricultural Method Statement** provides details as to how the trees proposed for retention will be protected and managed for the duration of the development. This part of the document should be read in conjunction with the **Tree Protection Plan**,

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which clearly identifies the location of the required protective fencing and its construction together with any special construction techniques required as per the recommendations of BS5837.

The Tree Survey, Impact Assessment and Method Statement combine to provide the Local Planning Authority with the information required to assess the trees in their current context and the future development proposal.

Limitations

All tree inspections were made from ground level only and cannot be considered as a tree safety survey. However, where obvious defects have been seen they have been noted.

Plans within this report are based on those supplied by the client. Greenspaces Tree & Landscape Consultants Ltd take no responsibility for the accuracy of the supplied plans.

Where ivy is too dense to easily remove, measurements have been made over the ivy. Where this is the case then it is clearly stated in the Tree Data Tables.

The findings and recommendations of this report are valid for a period of 18 months from its receipt by the client.

This report and any associated documentation, including plans, remains the property of Greenspaces Tree & Landscape Consultants Ltd until paid for in full.

Where plans have been cropped to fit the report, they may not be to scale.

This report and plans therein should be printed in colour if hard copies are required.

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Section 1 Tree Survey

1.1 Site description

33 Chester Road is situated to the northwest of the junction of Hillock Lane and Chester Road, Gresford with the area proposed for development being the lawned garden adjacent to the highway (circled with the continuous yellow line on the Google Maps extract below).

The area proposed for development comprises grassed lawn with generic shrub beds enclosed on three sides by intermittently planted common tree species.

The trees vary in size and age from large 15m+ mature examples to smaller, semi-mature trees of 3m in height most of which add to the character of Chester Road. Shrub beds have been maintained with minimum intervention and comprise of common generic species which have little visual amenity value to the general public.



Image from Google Maps

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The site has been well landscaped historically with a mix of both ornamental and native trees together with the previously mentioned shrub beds separating the garden from the adjacent highway. *Appendix 7 provides the locations of these shrub beds as a site plan.

**BS5837, Sect. 4, sub-sect. 4.4.2.7 “.... In the case of regularly maintained domestic hedges and the majority of shrub masses, it will normally be sufficient to record their height and species on the tree survey plan or note these in the schedule...”*

1.2 Tree Survey

All trees with a diameter of 75mm or greater growing on the site, and those which are growing within influencing distance of the proposed development, have been recorded using the guidance specified in Annexe C of BS5837:2012.

Diameters and sizes have been measured using a purpose designed diameter tape or callipers, surveyor's tapes and, where appropriate, a laser measure. Where accurate measurements have not been possible, an approximate size has been given. Trees with estimated dimensions are given the abbreviation “Est.” or the fact that they have been estimated has been included in the comments section of the Tree Data Tables.

A total of 12 no. individually growing trees have been measured, categorised and recorded for the purpose of this report (refer to Appendix 2). The location of other vegetation such as shrub beds has been provided on the plan in Appendix 7.

Crown spread and height has been provided to the nearest full metre with diameters given millimetres. However, where access has not been possible measurements have been estimated.

The schedule containing information for those trees on and around the site has been provided in Appendix 2 with tree locations plotted on the enclosed Tree Location Plan provided in Appendix 8.

The Tree Survey Data Sheets provided in Appendix 2 identifies the following information.

Tree No. The unique number given for each tree and used to specify trees throughout this document. The number relates to a small, circular metal tag attached to the tree at 1.5m above ground level which is used to aid identification. Trees not tagged, for example due to access, appearance or excessive ivy have been given the abbreviation NT, (i.e. NT1 – NT7 in this case). These numbers can also be seen on the associated plans within this report. However, the plans not only show the number but also the retention category, for example tree 7603 has been categorised as a category B tree and therefore the number on the plan is 7603B (see the following sect. 1.3 for further details on categorisation).

Species Common name given, for example oak, ash, sycamore etc., with botanical names provided where further clarification is needed.

Age Class Y – Young (small, newly planted and in aid of support such as stakes and ties), **IMM** – Immature (less than a third of the mature tree's dimensions), **SM** - Semi-mature (established and over a third of the mature tree's dimensions), **EM** - Early mature (over two

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thirds of the mature tree's dimensions), **M** – Mature (has reached its full growth potential), **OM** – Over mature (likely in decline or close to it).

Height measured to the nearest metre.

Crown Spread measured at the four cardinal points. Off-site trees may only have the on-site spread measured with the remaining spread being estimated.

First Branch the height of the first branch from ground level (GL) and its direction, for example 3N would signify a branch at approximately 3m above ground level on the tree's north side.

Physiological condition a brief, general description of the tree's health/vigour described as Poor, Fair or Good. Elaborated on, where necessary, in the "Comments" box.

Structural condition a brief, general description of the tree's structural condition described as Poor, Fair or Good. Elaborated on, where necessary, in the "Comments" box.

Est. Remaining Contribution as per Appendix 1; <10yrs, 10-20yrs, 20-40years, >40yrs

Comments A brief summary of any issues or benefits identified.

Category Refers to the retention category: A, B, C or U as explained further in Sect. 1.3 below and Appendix 3.

Recommendations may include works essential for the proposed development or works necessary to retain or improve a tree's health/vigour or safe useful life expectancy.

D.B.H. Diameter at breast height measured in millimetres (BS5837, sect. 4, sub-sect. 4.6.1)

RPA Root Protection Area given as a radius for the protection of roots around the retained tree and shown on the associated Tree Protection Plan.

1.3 Tree categorisations explained

Trees have been categorised as per the recommendations described in Table 1 of BS5837:2012. A copy of Table 1 has been included in this report as Appendix 3.

Categories identified in Table 1 of BS5837:2012 can be summarised as follows:

Category A (colour coded green) Trees in good physiological and structural condition which provide a substantial contribution in terms of landscape, cultural or arboricultural value and with an estimated life expectancy which exceeds 40 years.

Category B (colour coded blue) Trees of a moderate quality and value and which have an estimated life expectancy which exceeds 20 years.

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Category C (colour coded grey) Trees of a moderately low quality and/or value with a life expectancy which exceeds 10 years or trees with a D.B.H. of 150mm or less.

Category U (colour coded red) Trees of a size which can be easily mitigated or trees which are in poor physiological and/or structural condition and/or with a life expectancy of 10 years or less.

In addition to the above, BS5837:2012 provides sub-categories to give each tree a context for its value as follows:

1. Mainly arboricultural
2. Mainly landscape
3. Mainly cultural (including conservation benefits)

There is a total of twelve individually recorded trees on, or within influencing distance, of the area proposed for development. These have been categorised in accordance with BS5837 (see Appendix 3) as below.

Category A	Category B	Category C	Category U
6	2	2	2

1.4 Site visit parameters

The site was visited on 20th July 2024 with the weather conditions being clear and bright with sunshine. The weather did not impair visibility, and the all the trees could be clearly seen unless otherwise stated in the tree data tables.

Trees seen to be growing within influencing distance of the development have, in accordance with BS5837:2012, been included in the survey and report.

1.5 Constraints posed by existing trees

Development can cause both long and short-term impacts to tree health and stability, particularly through inadequate protection of Root Protection Areas. However, below ground tree constraints may alter if root growth has been inhibited, for example, due to topography or drainage (BS5837 Sect. 4, Sub-Sect 4.6.3.)

The associated Tree Protection Plan provides an illustrative guide to the below ground constraints in terms root protection areas and the above ground crown spreads. The supporting Tree Protection Plan identifies the colour coded retention category of each tree as per para. 1.3 with the crown spreads colour coded to the appropriate retention category.

1.6 Associated information

Plans showing the existing and proposed site layout were provided by the client prior to my site visit.

The above mentioned plans have been checked on site and used as the base plan for those in the attached appendices. GTLC take no responsibility if the information on the received and reproduced plans is inaccurate.

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1.7 Soil assessment

In accordance with BS5837 sect. 4.3, a soil assessment should be carried out by a competent person. However, due to the type of development proposed only a desktop study has been undertaken in terms of this report.

For the purpose of conforming to the British Standard a brief soil assessment can be found below (information obtained from Landis {www.landis.org.uk})

Soilscape 10: Freely draining slightly acid sandy soils

Texture: Sandy

Drainage: Freely draining

Fertility: Low

Carbon: Low

Drains to: Groundwater

Considering that the area proposed for development is well maintained lawned garden and no significant foundations are required I can see no need to go beyond the above.

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Section 2 Arboricultural Impact Assessment (AIE)

2.1 Development proposal

The proposal is to introduce a new access from Chester Road towards the west boundary where a gravel parking area is to be located as can be seen on Appendix 10 Tree Protection Plan.

The layout is sympathetic to the existing trees and will use an area currently occupied by two dead holly trees to create the new access the property.

2.2 Predicted impact of the proposal

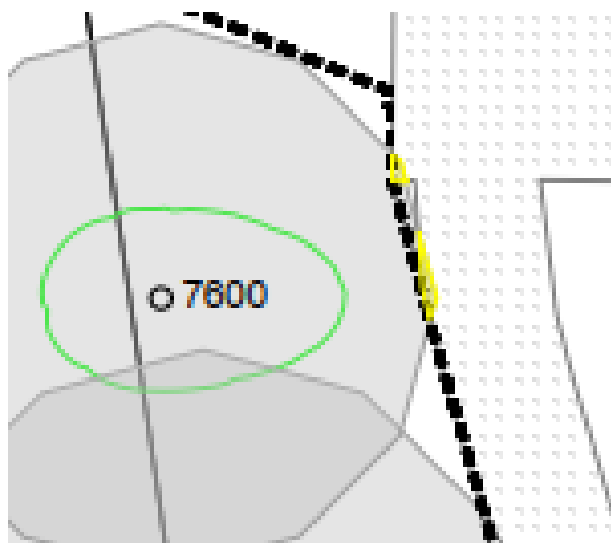
The layout will not have a negative effect on the existing trees but will necessitate the removal of two dead trees: 7596 & 7597. Two replacement trees are proposed.

2.3 Trees proposed for removal

Two trees are proposed for removal; trees 7596 & 7597, both of which are category U, dead holly trees.

2.4 Trees to be retained with disturbance of root protection areas

Minor incursion into the root protection area of tree 7600 is required as below (shaded yellow).



Tree No.	RPA (M ²)	Volume Affected (M ³)	% Affected	Can the tree be successfully retained
7600	241.1m ²	0.92m ³	0.38%	Yes – the volume is well below that recommended in BS5837

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2.5 Tree works proposed – summary

Tree No.	Species	Category	Description of loss	Mitigation measures
7596 & 7597	Holly	U	Remove the 2 no. dead holly trees regardless of any development opportunity due to their proximity to the highway.	1 x <i>Crateagus monogyna</i> and 1 x <i>Prunus spinosa</i> are proposed as replacements. Sizes are to be confirmed.

2.6 Mitigation planting

The frontage of the site adjacent to Chester Road is well planted and screened from the highway. It is my opinion that further planting will add little in terms of visual amenity. However, two trees are proposed to replace those to be removed: 1 no. *Prunus spinosa* and 1 no. *Crateagus monogyna*.

2.7 Protection of retained trees

Regardless of a tree's statutory protective status, if it is identified and agreed for retention there is a requirement for its physical protection as described in BS5837:2012. The Arboricultural Method Statement provided in section 3 of this report gives detailed recommendations of how this protection will be achieved. Provided these recommendations are followed the development is not considered to have a detrimental effect on those trees identified for retention.

2.8 Infrastructure and utility works

All infrastructure and utility works should be carried out in accordance with the guidance provided in the document *National Joint Utilities Guides 4* and, where prescribed by the Local Planning Authority, works will be carried out under the supervision of a qualified and experienced arboriculturist. However, service runs through root protection areas should be avoided. If this is not possible then any incursion of the root protection area must be hand dug and agreed with the Local Planning Authority prior to any excavation works. This agreement should be in writing and may require an additional method statement from those undertaking the works.

2.9 Works within Root Protection Areas

As can be seen in para. 2.4, incursion into the root protection area of tree 7600 is minimal, (less than 1%), and is not likely to have an effect on the tree's physiological condition or its safe useful life expectancy.

2.10 Working corridors

Although the development comes close to the root protection areas of trees 7595, 7598 and 7599 it does not impact on them and considering the type of development proposed leaves ample room for construction and the storage of materials. Access for the delivery of materials will be by the existing access from Chester Road. With this in mind, the layout does not necessitate the provision of working corridors. However, should the layout alter, working corridors may be required and should follow the example provided in Appendix 6

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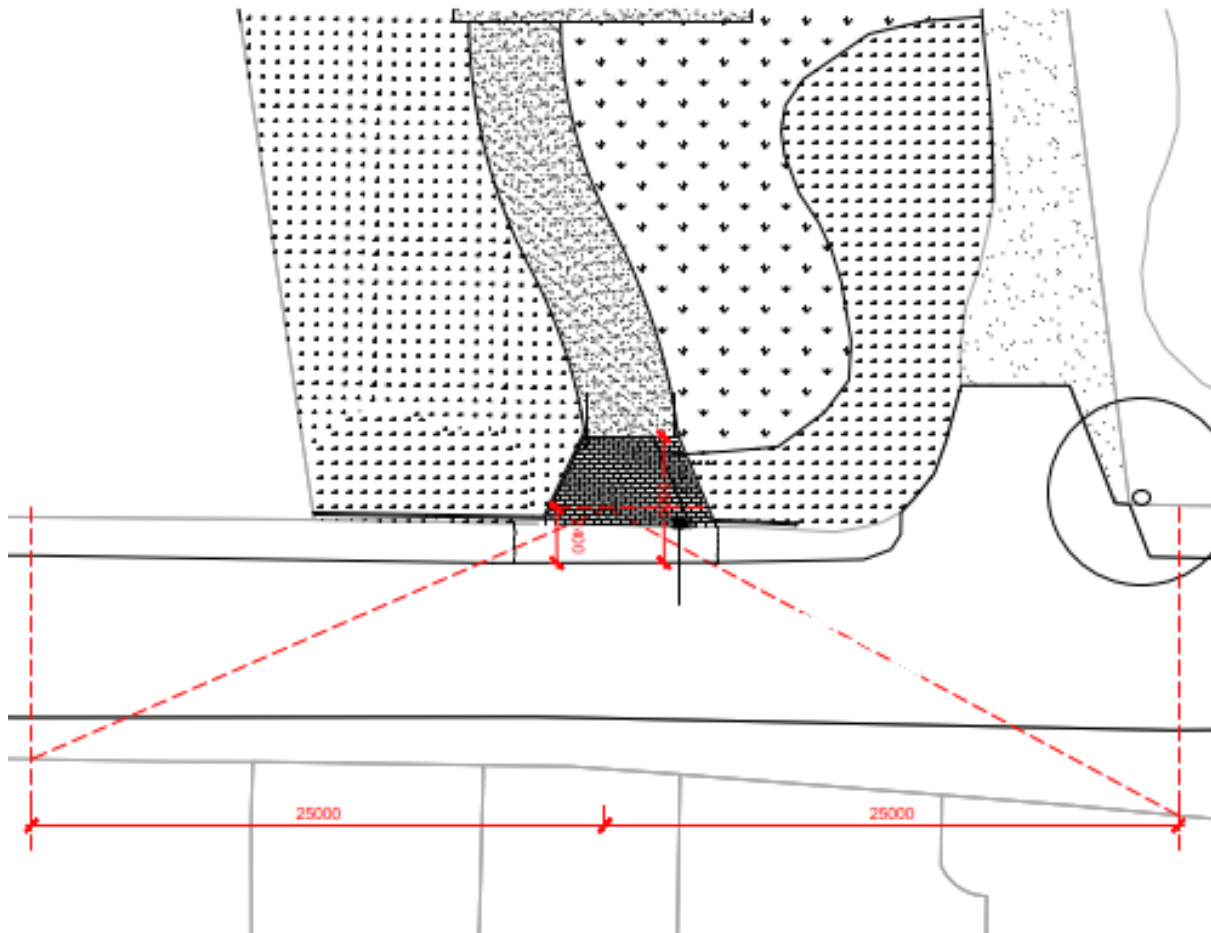
2.11 Long term tree retention and social proximity

The development is not for residential use and the size of the site and current relationship with existing trees is unlikely to alter.

Leaf fall, shading and seasonal nuisance will not increase beyond those already being experienced.

A visibility splay already exists due to the existing access and the trees being pruned to accommodate pedestrians on the highway.

The new visibility splay is as below and is not thought to require any further tree works beyond those already being undertaken.



In summary, the proposed development will not negatively impact on the existing trees.

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Section 3 Arboricultural Method Statement (AMS)

This section should be read in conjunction with the associated Tree Protection Plan both of which should be kept on site for reference during all stages of the development.

3.1 Arboricultural supervision requirements

Pre-commencement meetings should identify the need, or otherwise, for arboricultural supervision and at which stages arboricultural input may be required. During the site visit I did not see a need for ongoing arboricultural supervision. However, arboricultural supervision may also be requested by the Local Planning Authority or required in order to comply with a Condition relating to a Planning Permission.

3.2 Protective fencing discussion

Refer to drawings shown in Appendix 4 and as provided from BS5837:2012 for protective fence design and ground protection.

The suggested location of the protective fencing is given in Appendices 10 “Tree Protection Plan”.

The protective fencing should be erected prior to any construction or demolition stages and will remain in place for the duration of the development in accordance with any Conditions imposed by the Local Planning Authority.

The fencing is intended as a precaution to prevent accidental damage to the rooting area of retained trees. However, no materials should be stored inside the protective area and no waste run off, for example from the cleaning of equipment, should be allowed to enter the root protection areas.

It is recommended that signs are fixed to the protective fencing as shown in Appendix 5.

3.3 Tree Works

No tree works are proposed

3.4 Works sequence

Order of Work flow	Work required
1	Pre-commencement meetings if required.
2	Carry out any prescribed tree works
3	Install tree protection in accordance with Appendix 10.
4	Carry out any required demolition if required.
5	Introduce site facilities, car parking etc.
6	Construction starts.
7	Introduction of landscaping or mitigation planting outside of the construction area.
8	Development completed.

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9	Remove protective fencing.
10	Landscape within construction area if required.
Development complete.	

3.5 Quality of tree work

All tree work should be in accordance with the British Standard for tree work “BS3998:2010 Tree work – Recommendations”.

Your tree contractor should be familiar with the Standard and understand its contents evidenced by prior works of a similar nature.

Care should be taken that compaction does not occur through the use of heavy machinery around trees and wood chip should not be stored or left within the root protection area of trees.

In the interests of the environment, tree stumps should be ground out with a stump grinder or dug out rather than poisoned. Stump grinding is less impactful to the environment than digging stumps out.

Severing of ivy should be with hand tools such as pruning saws or secateurs and not chainsaws or hedge cutters.

Bats are European protected species and great care is needed not to disturb them. Your chosen contractor should be familiar with the signs and evidence of bat activity and seek advice where needed. Similarly, your contractor needs to understand legislation in terms of nesting birds and work accordingly.

3.6 Site supervision during construction

The site manager should have a copy of this report and be aware of which trees are to be retained and protected from the earliest stages.

The site manager should brief those working close to trees or undertaking activities which may accidentally affect them so as to avoid any incidents of damage either above or below ground. Should damage occur then the Local Planning Authority should be contacted and made aware of the situation.

3.7 Landscaping

Landscaping should be carried out when the tree protection is removed and should not involve any digging other than by hand in the root protection area. Any roots encountered should not be severed or damaged.

Many of a tree's feeder roots can be seen in the first 300mm of soil and for this reason rotovators and similar equipment must not be used within the root protection areas.

Where possible the soil should not be altered within root protection areas with fertilisers etc. and care should be taken that compaction does not occur as a result of the landscape works.

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3.8 Generic tree protection measures

- i. No fires shall be lit within root protection areas, or under the canopy, of any retained tree on or adjacent to the site.
- ii. No materials should be stored within root protection areas.
- iii. Levels within root protection areas must remain unaltered.
- iv. Contamination or compaction of areas proposed for future landscaping works should be avoided or made good prior to any planting.
- v. Contractor parking or other facilities will not be within root protection areas.
- vi. Herbicides must not be used within root protection areas.
- vii. Excavations and ground vegetation stripping, excluding the removal of trees and shrubs shown for removal, should not be undertaken until root protection areas have been established.
- viii. Retained trees will not be used for the anchorage of equipment or signage.
- ix. Protective fencing should not be moved other than in accordance with this document.
- x. Should incursion into the root protection areas be unavoidable then specific consent from the Local Authority will be needed.
- xi. Unless Planning Consent is granted pruning or removal of any tree should not be undertaken without prior checks with the Local Authority.
- xii. Washing of vehicles with detergents should not be carried out within 5m of root protection areas.
- xiii. Refuelling of vehicles and equipment should not be carried out within 5m of root protection areas.
- xiv. Working with machinery within 5m of the tree canopies should include a banksman.

Statement

It is my opinion that provided the recommendations in this report are followed, the proposed development will not have a negative impact on the trees to be retained.

Signed 
Matt Bardsley MICFor

Dated 29/08/2024

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Appendix 1 - Definitions / glossary of terms

Adaptive growth	an increase in wood in localised areas
Allelopathy	suppression of one species by another due to chemical release
Armour Bundled Cable	power line usually to a domestic dwelling
Basal sweep	tree stem which curves upwards from the base but then corrects itself
Bifurcation	union producing two or more stems
Bulge	pronounced bulge in a tree's stem or limbs indicating possible internal issues such as decay
Callus	tissue introduced because of a wound, specialising over time to form a natural repair
Cambium	narrow band of cells responsible for the growth of a tree's circumference
Canker	area of damaged bark/cambium normally associated with bacterial organisms
Cavity	hole within the tree
Chlorotic	normally associated with the yellowing of leaves
Co-dominant	two stems both approximately the same age growing from the same root stock
Compartmentilisation	natural repair of a trees wound
Compaction	compaction of ground around a tree's root area preventing gaseous exchange
Compression Union	tight fork between two stems, often considered as a potential defect
Conservation Area	in accordance with the Town & Country Planning Act protects all trees over 75mm DBH
Crown	head of foliage
Crown lift	remove or prune lower branches to raise the trees foliage
Crown reduction	reducing a trees overall canopy size
Deadwood	typically associated with branches and limbs
DBH	Diameter at Breast Height
Decay	degradation of woody tissues
Deciduous	tree that sheds its leave annually
Decline	a tree or tree component which is dying
Dieback	branch tips showing signs of poor health
Dormant	seasonally inactive tree or tree part
End weight	uneven distribution of foliage favouring the branch terminuses
Epicormic growth	shoots formed when dormant bud growth is triggered often through stress
Etiolated	reaching for light, generally resulting in a tall, unbalanced, or slender tree
Extension growth	amount of growth put on the previous growing season suggesting vitality
Exudation	weeping, ouzing

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Fibrous roots	also root fibres absorbing roots normally within top 30cm of soil
Formative pruning	a tree to shape usually started at young age
Fruiting body	different fungi associated with tree decays
Hazard Beam	partially split of branch or limb
Heartwood	central core of the tree
Heave / root heave	partial movement of a tree's root plate
Hung up branch	snapped branch suspended above the ground
Hymenoscyphus fraxineus	commonly known as Ash Die Back – a disease that affects Fraxinus species
Included bark/inclusion	example; stem or branch growing into one another
Lateral	branch growing horizontally from the stem
Live crown ration	percentage of live crown able to photosynthesis
Monolith	trunk with crown removed, usually kept for ecological value
Multi-stemmed	having more than two stems
Natural bracing	where branches intertwine to support one another
Pioneer species	first species to populate an abandoned site
Primary union	first point from the ground where a trunk develops into stems or branches
Pollard	process of removing branches from a tree to promote epicormics growth
Reaction Wood	secondary wood developed in response to stress such as a lean
Retrenchment Pruning	pruning method intended to emulate a tree's natural aging process
Roots	underground tree component responsible for stability and water/nutrient uptake
Root plate	area around the base of the tree where the anchorage roots are formed
Root pruning	sympathetic pruning of roots
Scion	part of the tree that is grafted to a root stock
Sp./Spp.	abbreviation of species and species'
Suppressed	tree or tree component affected by a neighbouring tree or obstruction
Stub	see 'Topping'
Sweep	see 'Basal sweep'
Tag/Tree Tag	small metal numbered disk attached the tree for identification
Topping	where a limb, branch or stem has been cut with little regard for its ability to compartmentalise and recover. Contrary to the British Standard
TPO/Tree Preservation Order	tree protected in accordance with the Town & Country Planning Act
Vertical shoot	normally a reaction to pruning where regrowth extends vertically rather than horizontally.
Waterlogging	standing water unable to drain freely normally associated with compaction
Windthrow, windblown	where a tree is blown over

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Appendix 2 – Tree Survey Data Sheets

Tree No.	Species	*Age Class	Height (M)	Crown Spread (M)				D.B.H (MM)	First Branch (M)	Physiological Condition	Structural Condition	Est. Remaining Contribution	Comments	Category*	Recommendations	RPA (M²)	Radius of circle (M)		
				N	E	S	W												
7594	Yew	EM	12	3	3	3	3	380 300	4S	Good	Good	40>	Co-dominant as of 1m above ground level	A	Retain and protect	106	5.8		
7595	Yew	SM	7	3	3	2	3	140 110 180	2N	Good	Good	40>	Trifurcated as of 0.5m above ground level	A	Retain and protect	29	3		
7596	Holly	EM	7	2	2	2	2	240 240	3N	Poor	Poor	<10	Co-dominant dead tree adjacent to highway	U	Remove regardless of development	52.1	4.1		
7597	Holly	EM	7	2	2	2	2	290	3S	Poor	Poor	<10	Dead tree adjacent to highway	U	Remove regardless of development	38	3.48		
7598	Yew	EM	7	3	2	2	2	320 240	2s	Good	Good	40>	Co-dominant as of 1m above ground level	A	Retain and protect	72.4	4.8		
7599	Chestnut	EM	15	4	4	6	5	850	3 N	Good	fair	20>	200mm dia. limb lost at primary union with cavity visible, west crown spread estimated	B	Retain and protect	326.9	10.2		
*Category		A – High Quality Life of 40yrs+				B - Moderate Quality 20yrs+				C - Low Quality 10yrs+			U – Poor Quality <10yrs		*Sub-Category		1 Arboricultural	2 Landscape	3 Cultural
*Age Class		Y Young				IMM Immature					SM Semi-mature			EM Early mature		M Mature			

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Tree No.	Species	*Age Class	Height (M)	Crown Spread (M)				D.B.H (MM)	First Branch (M)	Physiological Condition	Structural Condition	Est. Remaining Contribution	Comments	Category*	Recommendations	RPA (M ²)	Radius of circle (M)
				N	E	S	W										
7600	Yew	EM	12	3	6	3	4	730	5E	good	good	40>	No issues noted, west crown spread estimated	A	Retain and protect	241.1	8.76
7601	Yew	EM	12	3	2	4	3	390 620	3E	Good	Good	40>	300mm dia. limb removed on the west side at 1.5m above ground level	A	Retain and protect	242.7	8.8
7602	Yew	EM	10	3	0	3	2	270	2W	Good	Fair	20>	Two major limbs circa. 150mm dia. lost west side at 2.0m above ground level, west crown spread estimated	C	Retain and protect	33	3.24
7603	Chestnut	EM	16	1	6	6	3	640	3E	Fair	Fair	20>	in raised bed approx. 1m above ground level, no signs of instability at the time of inspection, crown is suppressed at the north and south side, Armoured Bundled Cable on edge of crown, east and south crown spreads estimated	B	Retain and protect	185.3	7.68
*Category		A – High Quality Life of 40yrs+			B - Moderate Quality 20yrs+			C - Low Quality 10yrs+			U – Poor Quality <10yrs			*Sub-Category	1 Arboricultural	2 Landscape	3 Cultural
*Age Class		Y Young			IMM Immature			SM Semi-mature			EM Early mature				M Mature		

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Tree No.	Species	*Age Class	Height (M)	Crown Spread (M)				D.B.H (MM)	First Branch (M)	Physiological Condition	Structural Condition	Est. Remaining Contribution	Comments	Category*	Recommendations	RPA (M²)	Radius of circle (M)				
				N	E	S	W														
7604	Sycamore	EM	16	1	5	3	5	440	2W	Good	Fair	10>	In raised bed approx. 1m above ground level, no signs of instability at the time of inspection, cavity in primary union where stem lost historically, east crown spread estimated	C	Retain and protect	87.6	5.28				
7605	Chestnut	EM	15	3	6	5	2	640	3S	Good	Good	40>	In raised bed 1.0m above ground level, chestnut leaf minor, lower stem obscured by ivy, east crown spread estimated	A	Retain and protect	185.3	7.68				
*Category		A – High Quality Life of 40yrs+				B - Moderate Quality 20yrs+			C - Low Quality 10yrs+			U – Poor Quality <10yrs		*Sub-Category		1 Arboricultural		2 Landscape		3 Cultural	
*Age Class		Y Young				IMM Immature					SM Semi-mature			EM Early mature			M Mature				

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Appendix 3 – BS5837:2012 Cascade Chart for tree categorisation

BS5837:2012 Table 1 – Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	- Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) - Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline - Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality <i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see [BS5837:2012] 4.5.7.</i>			
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
Trees to be considered for retention				
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	

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Appendix 4 – Protective Fencing Design Examples

BRITISH STANDARD

BS 5837:2012

Figure 3 Examples of above-ground stabilizing systems

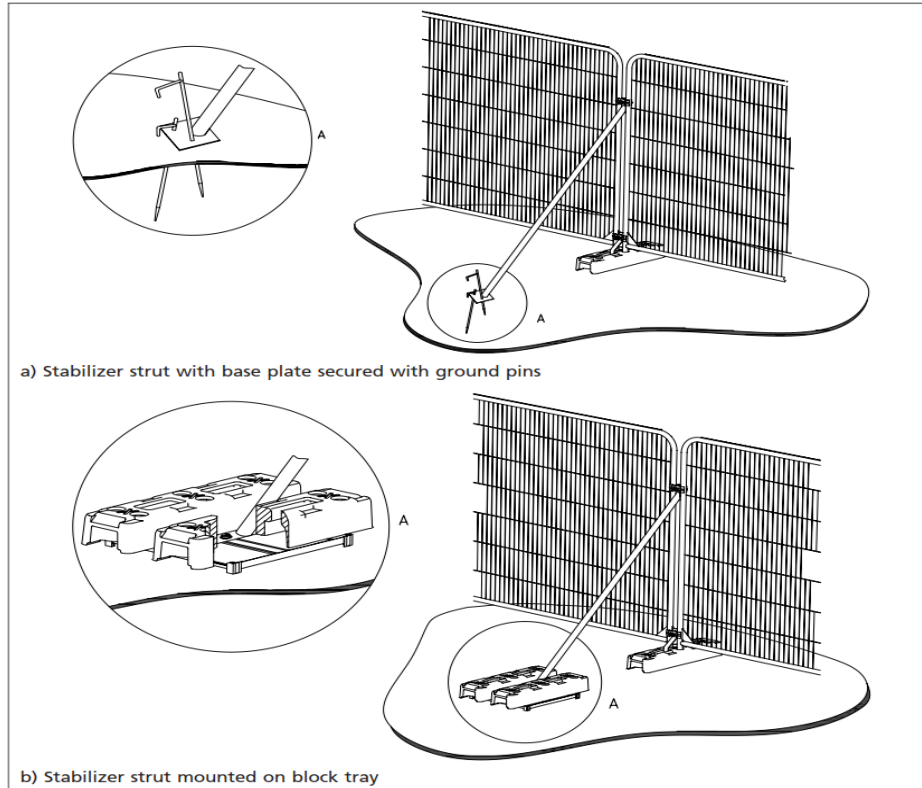
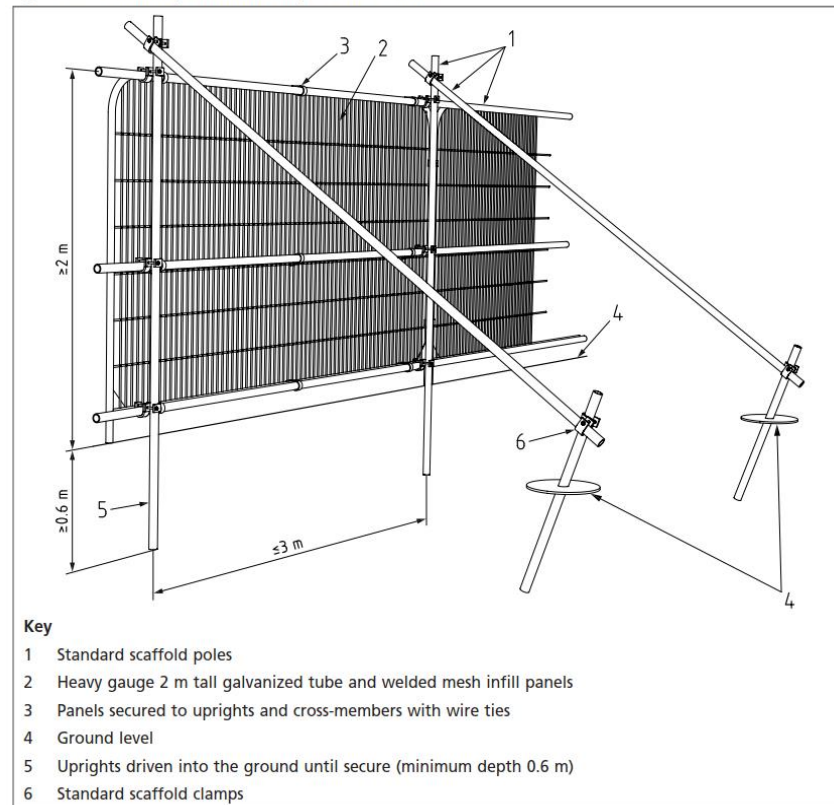


Figure 2 Default specification for protective barrier



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Appendix 4 continued – Heras Steadfast System



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Appendix 5 – RPA Example Sign 1



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Appendix 5 continued – RPA Example Sign 2



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Appendix 6 – Working Corridor - Scaffolding or light foot traffic within the RPA

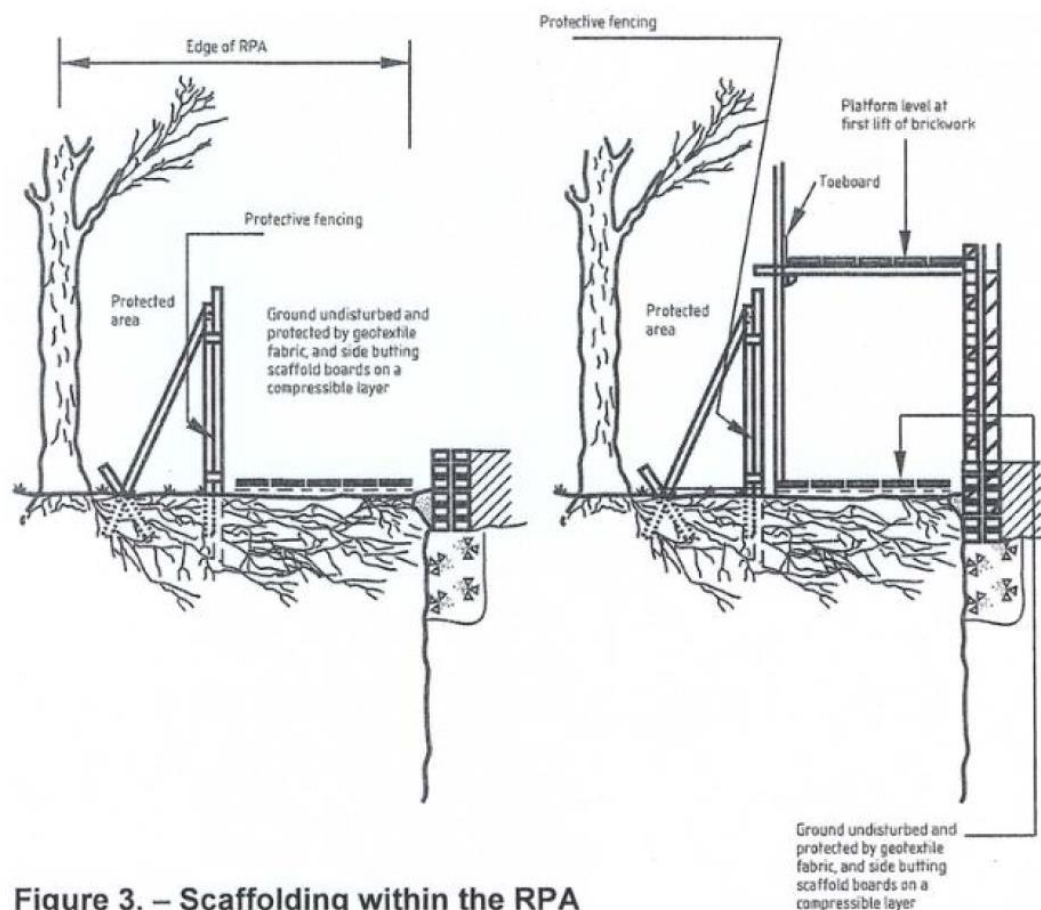


Figure 3. – Scaffolding within the RPA

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Appendix 7 - Vegetation Location Plan

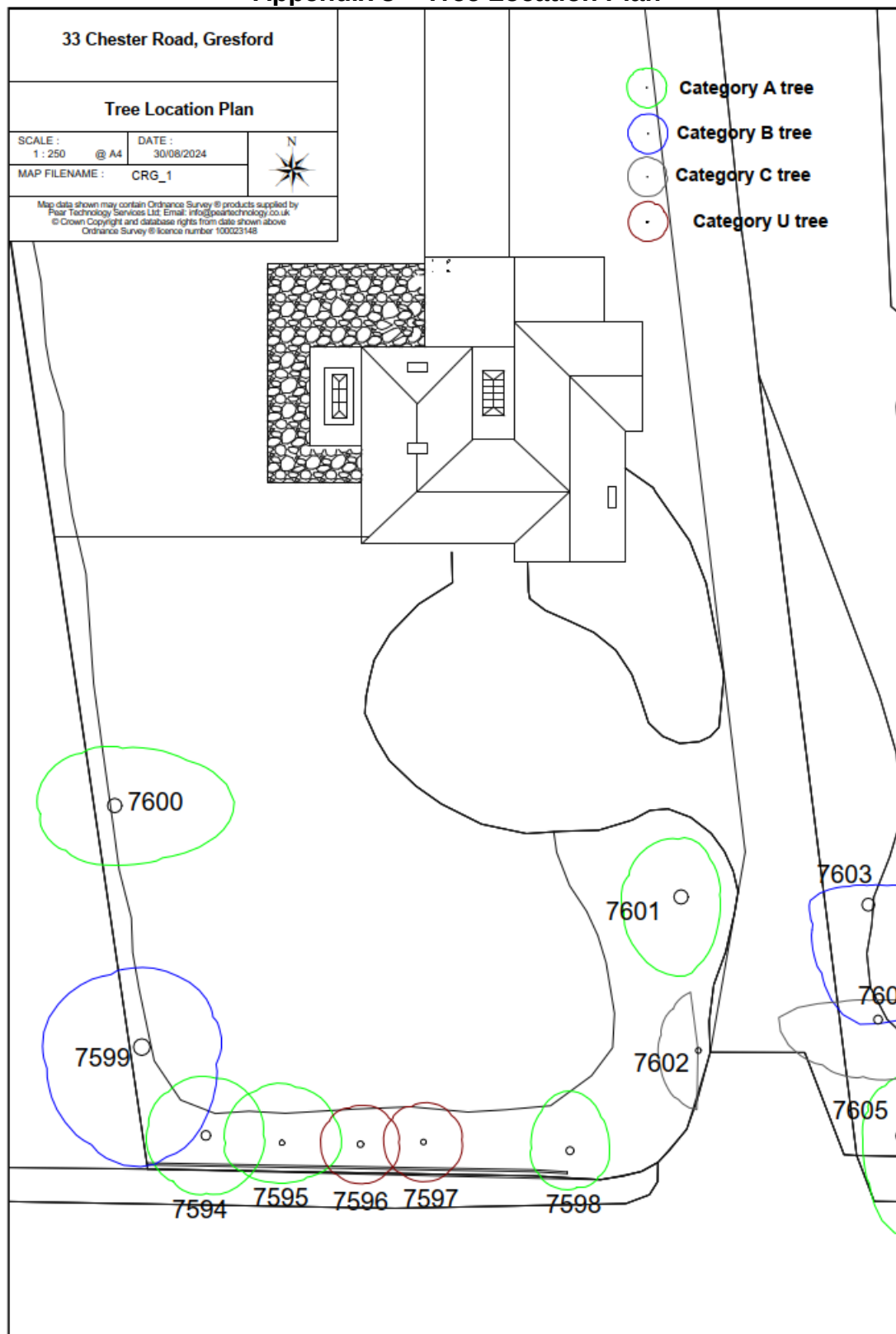


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Appendix 8 – Tree Location Plan

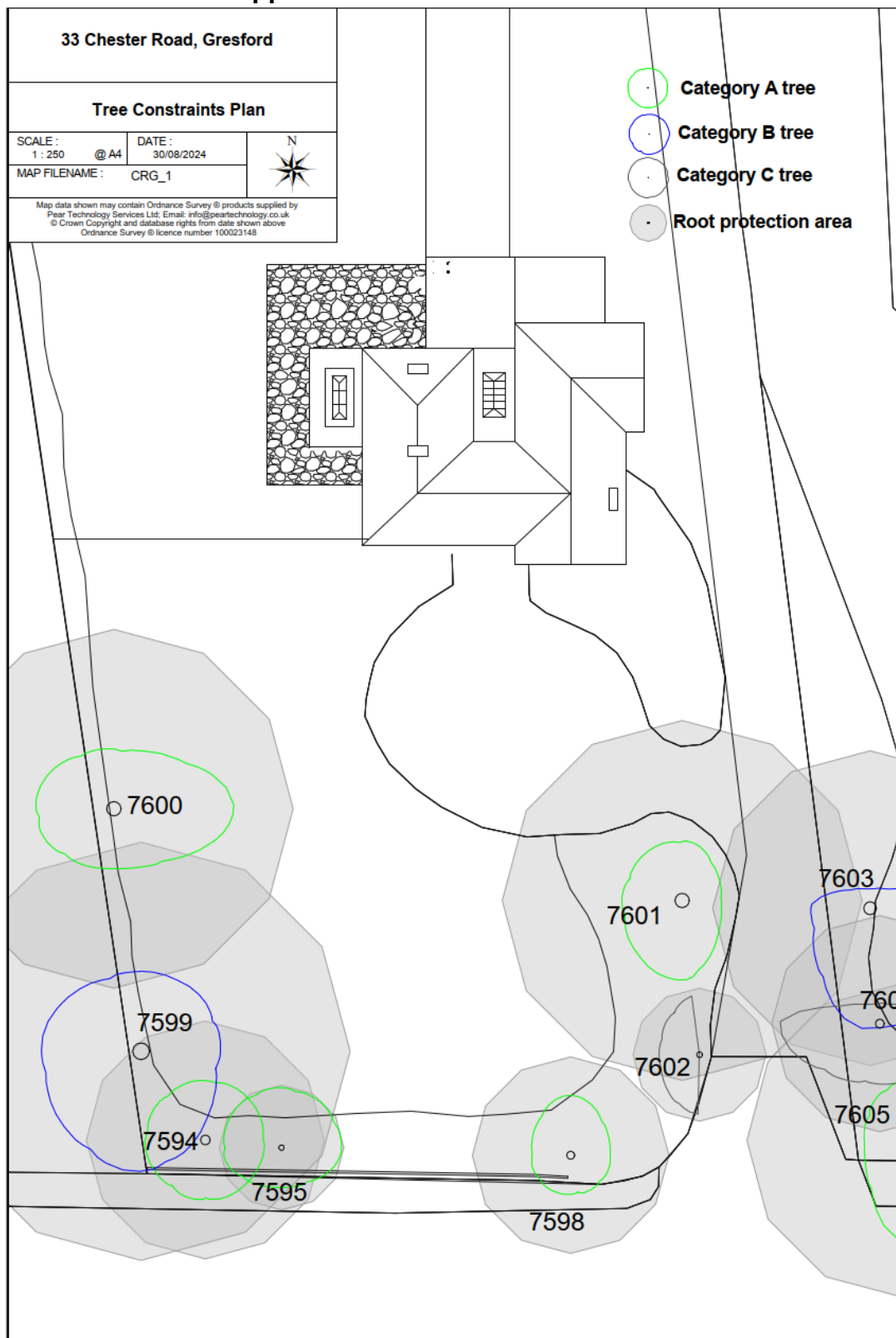


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Appendix 9 – Tree Constraints Plan

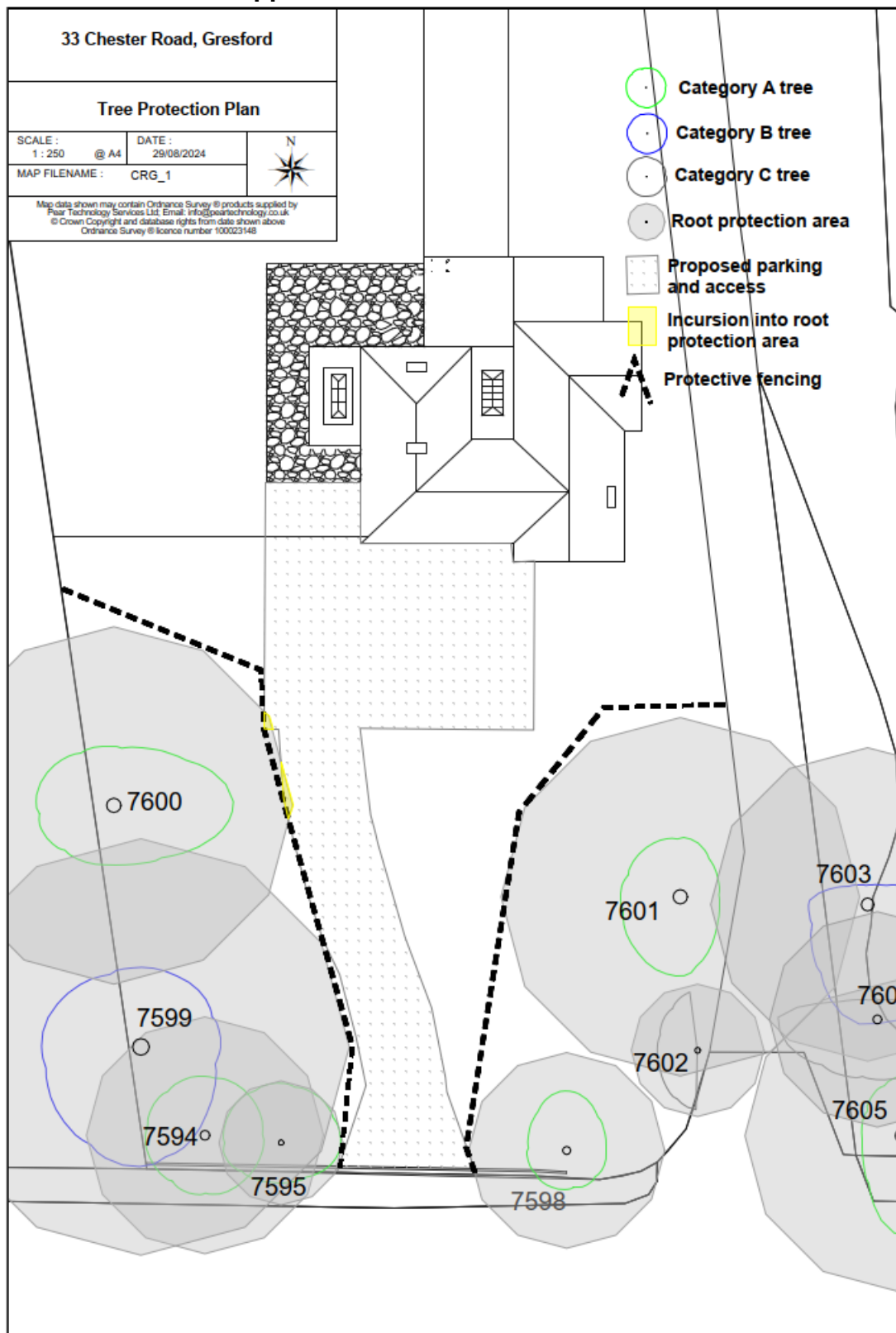


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Appendix 10 – Tree Protection Plan



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Appendix 11 – Images



Trees 7603 – 7605 on raised bed above existing access



2x dead holly trees recommended for removal with the area then to be used for the proposed entrance from Chester Road (no other trees to be significantly effected by the proposal)



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Typical shrub bed on the site



Centre - typical small trees on the site to be retained but not recorded due to their size (<75mm) with tree 7600 to the right



Vegetation does not block the proposed visibility splay

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Credentials of the arboriculturist

This report was prepared by Matt Bardsley who holds the following qualifications and accreditations: -

Chartered Arboriculturalist with Institute of Chartered Foresters

Professional member of the Arboricultural Association (PR5720)

HND Arboriculture & Woodland Management

Royal Forestry Society Certificate in Arboriculture

Lantra Professional Tree Inspection Qualification

Lantra Instructor Qualification



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Bibliography

A Guide to Good Practice: the use of cellular confinement systems close to trees, The Arboricultural Association

A-Z of tree terms; A Companion to British Arboriculture, Philip Wilson

BS3998:2010 Recommendations for Tree Work, British Standards Institute

BS5837:2012 Trees in relation to design, demolition and construction – recommendations. British Standards Institute

Geo-tech Tree Root Protection System, geo-tech.co.uk

Hilliers Manual of Trees and Shrubs, 3rd Edition, Thomas Hillier & Son

Landis, Landis.org.uk

The consultants guide to writing effective reports, The American Society of Consulting Arborists

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