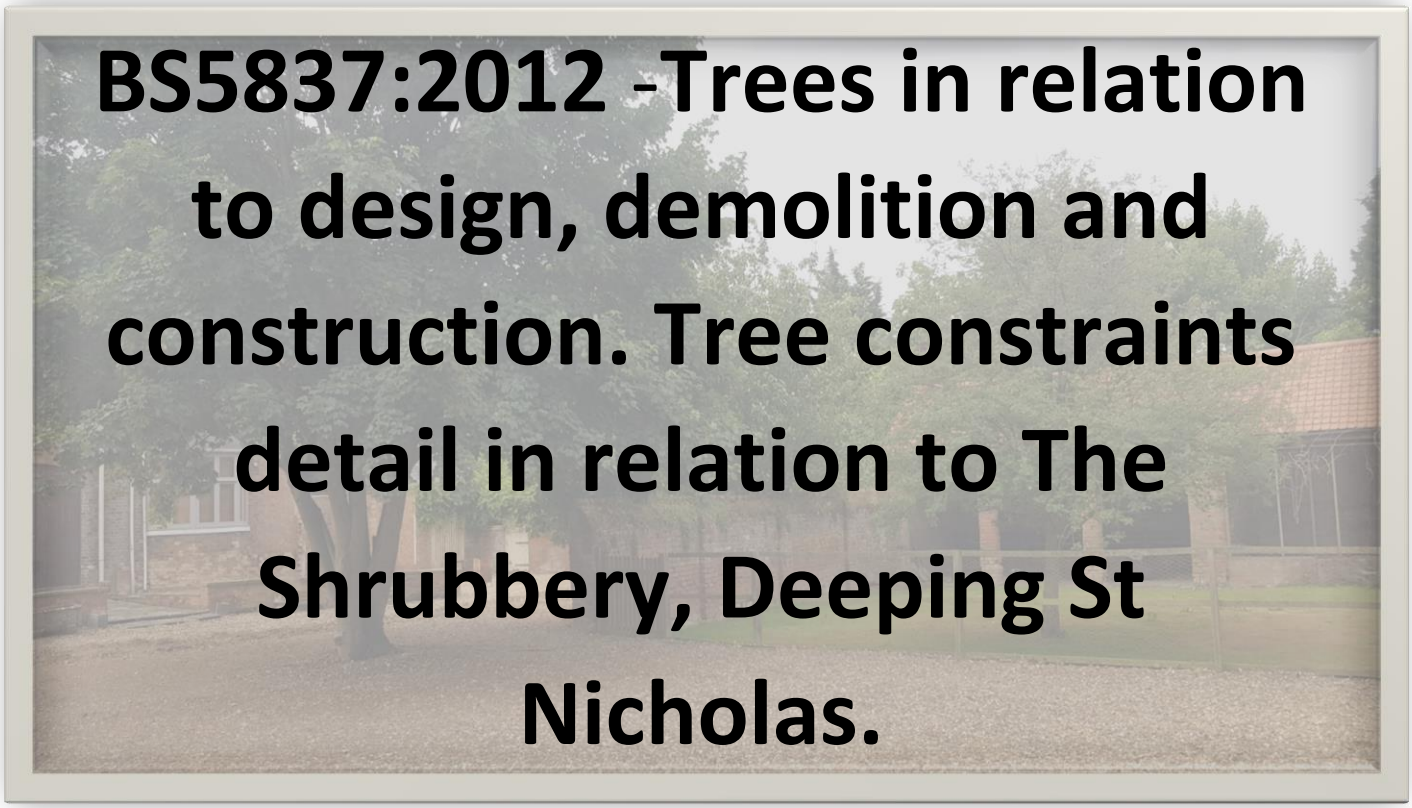


BS5837:2012 -Trees in relation to design, demolition and construction. Tree constraints detail in relation to The Shrubbery, Deeping St Nicholas.

Prepared by: John Wilcockson

Arboricultural Consultant.

Tech Cert (Arbor A)

Date: 11/06/2020

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1. Instructions

This report was commissioned by John Richards with instruction to carry out an inspection of trees on land at The Shrubbery, Deeping St Nicholas in line with *BS5837:2012 Trees in relation to design, demolition and construction - Recommendations.*

The objectives of this report are as follows:

- To make an assessment of the trees' condition and identify any faults.
- To provide tree constraints details along with recommendations.
- To cover tree protection measures
- A topographical survey was provided.

2. Introduction

This document has been prepared to fulfil the requirements for the proposal in accordance with the Department for Communities and Local Government guidance on information requirements and validation and is set out in compliance with British Standard 5837 Trees in relation to design, demolition and construction recommendations 2012.

This report addresses the arboricultural issues relating to the potential for development at the above site.

John Wilcockson carried out a brief visual appraisal of the trees on the 8 May 2020 in accordance with the guidelines in the BS5837 (2012) Trees in Relation to Design, Demolition and Construction-Recommendations. He was unaccompanied while carrying out the survey work. The trees are described on the Tree Survey and Constraints Plan as T1 and so on. The survey is based on a topographical plan provided by the architect. The position of additional trees not plotted on the topographical survey plan is estimated.

The survey was carried out from ground level. The weather conditions were clear with enough visibility for surveying trees for planning purposes. This survey is for planning guidance purposes only and is intended as only a preliminary assessment of the trees. It is not a detailed individual tree condition assessment. In the case of groups of trees and woodlands, only a general assessment has been made and the recorded condition and retention categories awarded are on the basis of what is typical of the group. No digging or drilling was carried out.

The survey was carried out from within the site. The upkeep and safety of the trees growing outside the site are the responsibility of the adjacent landowners. They should not be pruned or worked on without consulting with the owners.

3. Site information

The site is relatively flat and may be accessed from the A1175. There is an existing farmhouse and associated outbuildings. The proposed development area is to the rear of the main farmhouse and consists of historic outbuildings with a courtyard parking area currently finished in gravel. To the west is a grass area with trees, then a wall and a Cypress boundary hedge.

4. Tree survey findings

The tree survey data can be found at Appendix 4 Table 2.

The Constraints plan can be found at appendix 5.

Being situated away from the main road, the trees at the site make only a limited collective contribution to the public amenity of the area due to the roadside trees.

The trees within the courtyard area are all reasonable specimens, some faults were identified - included unions as per image below on T9, but nothing of great significance, equally, remedial works would not be an option to rectify these faults.



The Purple Plum and the Sycamore are impressive trees visually.

Site photos can be found at Appendix 10.

5. Implications

The Implication plan is at Appendix 6.

Although not showing as being felled, T1 & T2 should be removed due to their condition and lack of suitability for retention. If retained, I do not consider that either tree needs protecting during the construction phase as they are not directly implicated other than footfall.

Ideally the Cypress hedge should also be removed or reduced and maintained at a set height. The hedge to be protected during the construction phase.

There will be no changes in the areas around T4 or T6 and they will be protected/excluded during the construction phase.

T7 & T8 will need to be removed as they will lose their remaining untouched RPA under grass to gravel, as these trees have no public landscape value, I would suggest that they should not be seen as a constraint to development.

T9 will be within the central construction area and will lose the last part of its RPA under grass to gravel however, the tree has adapted to this surface change historically and I am of the opinion that it should survive this further process. The additional area to change to gravel is 10% of the gross RPA. Whilst typically, this should be of no-dig design, I am of the opinion that this specification for such a small area is unnecessary. It could argued that this is not in line with BS5837, but I am of the opinion that the installation of the existing gravel has had no ill effect on the tree and this last small segment of the RPA being converted to gravel is unlikely to cause the demise of the tree subject to no roots being severed. There will of course be additional compaction, but the intended use is relatively low.

The installation of the extended gravel area is covered in the Arb Method Statement in the following section.

It is likely that there will be the need for a mini digger in order to construct the proposed parking area/garaging, it is suggested that the RPA is marked out on the ground with spray paint and that the mini digger is manoeuvred on site outside the RPA where practically possible. It has been suggested that the mini digger will only be working in this area for a day and as such, I am of the opinion that ground protection measures are not proportional.

The courtyard is only to be used for the movement of materials and construction staffs' own vehicles, these to be parked outside the RPA of T9 also. There will be no storage of materials in this area.

T10 will need to be removed to facilitate the construction of the proposed new parking. I do not see this as a constraint to the development of the site given that this tree has no public visual amenity value.

New concrete will be piped to site from outside the RPA of T9 and materials in general stored to the north of the existing buildings.

It is advised that the site construction manager assess crown clearances to ensure that there is no conflict. If crowns need to be laterally or vertically pruned only the bare minimum is to be removed and the works carried out by a suitably qualified Tree Surgeon.

Subject to the tree protection measures being adhered to, I would suggest that there will be no negative impact on the retained trees.

6.0 Arboricultural Method Statement & Tree Protection Plan

6.1 Sequenced Methods of Demolition, Construction and Tree Protection

With reference to relevant published guidance, the methodology of this statement follows a logical sequence essential to the efficacy of the protection measures. Reference may include: British Standard BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations; British Standard BS3998:2010 Tree Work. It is essential to the successful implementation of the principles set out in this document that effective supervision and enforcement are put in place from the outset.

6.2 Phase 1 Undertake Arboricultural Works

Remove T7, T8 & T10 as per the tree removals plan at Appendix 7.

Particular care needs to be addressed in dealing with legally protected species such as nesting birds and roosting bats which are protected under the Wildlife and Countryside Act 1981 (as amended) from intentional harm and killing and applies to roosting and hibernating bats and active bird nests. The protection of bird nests applies between mid-February to August inclusive.

6.3 Phase 2 Tree Protection Fencing, demolition & Method Statement

Tree protection will be installed prior to any demolition or groundworks commencing as per the Tree Protection Plan in Appendix 8, this shall remain in place throughout construction and be removed only after completion.

Essentially, the aim is to protect as such of the RPAs of retained trees as possible.

The fencing to be positioned at the extent of the RPAs of T4 & T6 and set back 2m from the centre of the Cypress hedge.

The fencing to be installed at 2m in a square around T9 to protect the trunk from impact damage.

The default fence specification as per figure 1 of BS 5837:2012 will be used (see Appendix 8) in order to minimise the risk of damage to roots for T4, T6 and the Cypress hedge.

Figure 3 fence type to be used for T9.

Within the fenced zone, no materials or chemicals should be stored at any time, no fires should be lit, no pedestrian or vehicle traffic, and level changes within these areas should be kept to an absolute minimum. Every effort should be taken to protect a maximum possible area of the root system.

Clear notices are to be fixed to the outside of the fencing with words such as

‘TREE PROTECTION AREA – NO ACCESS OR WORKING WITHIN THIS AREA’.

See Appendix 9. These notices shall be A3 in size, laminated and fixed to the fencing using suitable aids such as tie wires.

The additional gravel within the RPA of T9 will require that the turf layer is removed by hand and a terram type mat installed prior to the gravel being laid.

The site agent, all contractors and other relevant personnel are to be informed of the role of the Tree Protection Fencing and their importance. A copy of the Tree Protection Plan will be displayed on site at all times during construction.



J Wilcockson

11/06/2020

Appendix 1. Tree survey

The trees were assessed objectively using 'Visual Tree Assessment' (VTA) techniques from the ground. VTA is a methodology, employed by arboriculturists, to evaluate the structural integrity of a tree, relying on observation of a trees biomechanical and physiological features; this is the method generally adopted and is appropriate in this instance. The survey includes an individual tree number listed sequentially, tree Species in both its common and botanical name, its height, stem diameter measured at 1.5m from ground level, spread of the radius of the crown by cardinal points, height of the crown above ground level, age classification its general condition and any general conditions structural or biological defects noted during the survey. An estimate of the remaining safe life expectancy (SLE) and the category as defined in BS 5837:2012 Recommendations cascade chart for tree quality assessment.

The root protection area (RPA) will be calculated from the stem diameter and this will identify the area which will require special protection during the works.

Trees on the site have been divided into one of four categories (based on the cascade chart for tree quality assessment). These are classed as A, B, C or U (Section 4 of BS 5837) within the table in Appendix 1, Table 2. This gives an indication as to the tree's importance in relation to the site, the local landscape and, also, the value and quality of the existing trees on site. This assists informal decisions concerning which trees should be removed or retained should development occur. For a tree to qualify under any given category it should fall within the scope of that category's definition (see below).

Categories A, B and C cover trees that should be a material consideration in the development process, each with three further sub-categories (i, ii, iii) which are intended to reflect arboricultural, landscape and cultural (nature conservation) values. Category U trees may have no significant landscape value, but it is not presumed that there is any overriding need to remove these unless stated otherwise in the description and recommendations. They are for this reason not considered as being significant within the planning process. In assigning trees to the A, B or C categories, and the presence of any serious disease or tree–related hazard is taken into account. If the disease is considered fatal and/or irremediable, or likely to require sanitation for the protection of other trees it may be categorised as U with a recommendation for work or even removal, even if they are otherwise of considerable value.

Category (A): Trees whose retention is most desirable and are of high quality and value. These trees are considered to be in such a condition as to be able to make a lasting contribution (a minimum of 40 years) and may comprise:

(i) Trees which are particularly good examples of their species especially rare or unusual, or essential components of groups or of formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue);

(ii) Trees, or groups of trees which provide a definite screening or softening effect to the locality in relation to views into or out of the site, or those of particular visual importance (e.g. avenues or other arboricultural features assessed as groups);

(iii) Trees or groups of significant conservation, historical, commemorative or other value (e.g. Veteran or wood-pasture trees).

Category (B): Trees whose retention is considered desirable and are of moderate quality and value. These trees are considered to be in such a condition as to make a significant contribution (a minimum of 20 years) and may comprise:

(i) Trees that might be included in the high category but because of their numbers or slightly impaired condition (e.g. presence of remediable defects including unsympathetic past management and minor storm damage), are downgraded in favour of the best individuals;

(ii) Trees present in numbers such that they form distinct landscape features and attract a higher collective rating than they would as individuals. Individually these trees are not essential components of formal or semi-formal arboricultural features, or trees situated mainly internally to the site and have little visual impact beyond the site;

(iii) Trees with clearly identifiable conservation or other cultural benefits.

Category (C): Trees that could be retained and are considered to be of low quality and value. These trees are in an adequate condition to remain until new planting could be established (a minimum of ten years) or are young trees with a stem diameter below 150 mm and may comprise:

(i) Trees not qualifying in higher categories;

(ii) Trees present in groups or woodlands, but without this conferring on them significantly greater landscape value and or trees offering low or only temporary screening benefit;

(iii) Trees with very limited conservation or other cultural benefits.

Category (U): Trees that are considered to have no significant landscape value, but it is not presumed that there is any overriding need to remove these unless stated otherwise in the description and recommendations. They are for this reason not considered as being significant within the planning process. These trees will be in such a condition that any existing value would be lost within 10 years and which should in the current context be ignored or removed for reasons of sound arboricultural management. Trees within this category are:

(i) 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;

(ii) Trees that are dead or are showing signs of significant, immediate or irreversible overall decline;

(iii) 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.

The Soil type was not assessed.

This report is valid for one year from the date of site inspection. The condition of trees can change following severe weather conditions, the effects of diseases and pests, and other abiotic factors.

Appendix 2. Legal Constraints

Where Local Planning Authorities can assess trees as beneficial to the wider community in terms of their amenity value, they may be protected by a Tree Preservation Order (TPO).

In certain areas classified as Conservation Areas, all trees with a stem diameter of 75mm (measured at 1.5m above ground) are protected by Conservation Area legislation. The LPA must be given notice of any work intended so they can visit the site and then either protect the tree(s) with a TPO or allow the works to go ahead. Their decision must be made within a six-week period. If no decision is made within the six-week period, the work may be carried out, providing it is done within a two-year period.

If trees protected by a TPO or within conservation areas are cut-down, topped, lopped, uprooted or wilfully damaged or destroyed, the owner of the tree(s) and the contractor responsible for the work can both be legally prosecuted. The current maximum fine is £20,000 per tree at the Magistrates Court or unlimited fine at the Crown Court.

Trees that are dead or dangerous are exempt from legislation. It is common good practice to notify the LPA of intention to carry out work to trees that fall into these categories, preferably with some notice (e.g. one working week).

A leaflet produced by the DTLR (Protected Trees), covers the issues raised by this legislation.

Any works prescriptions for protected trees can be dealt with by way of inclusion into a Planning Application for development purposes; this avoids the need to make a separate tree application.

A check with the Local Planning Authority has not been carried out.

Statutory wildlife obligations: The Wildlife and Countryside Act 1981 as amended by the Countryside and The Habitat Regulations 2012 provide statutory protection to birds, bats and other species that inhabit trees. All tree work operations are covered by these provisions and advice from an ecologist should be obtained before undertaking any works that might constitute an offence.

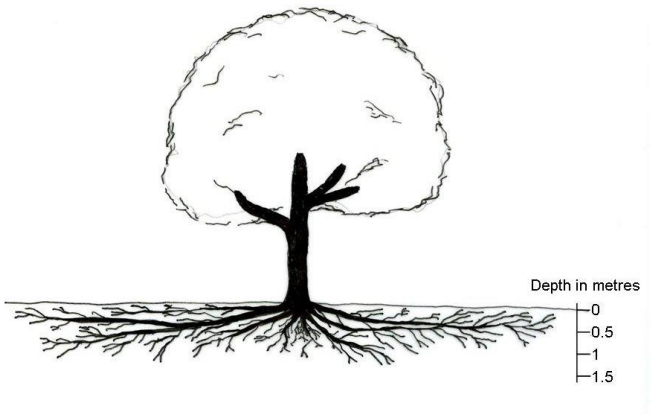
Appendix 3. Arboricultural considerations in relation to development.

Rooting structure

Rooting structure is a key issue when dealing with trees and development. To ensure the survival of trees the British Standard Institute has introduced the concept of a Root Protection Area (RPA). The RPA is an area surrounding a tree that contains sufficient rooting volume to ensure the tree's survival and is represented in square metres. (BS5837 2012 discusses the extent and for of a trees root system.)

The following diagram represents the typical rooting pattern of a tree. Note that 90% of the trees roots are usually located within the top 1m of soil and that roots may spread well beyond the canopy. Therefore, no works are allowed within the RPA. Even a small trench 0.5 metres deep to accommodate a cable or drain may lead to the loss of the tree. When work is proposed or is absolutely necessary within the RPAs of retained trees the proposals will only be considered if supported by an agreed robust and realistic Arboricultural Method Statement, following recommendations within BS 5837 2012.

Typical rooting structure of a tree



To successfully integrate trees into a development it will be necessary to allow enough space in the design to allow trees to mature and flourish and to agree protection measures during the entire construction phase. Trees should be considered at the earliest design stage to allow them to be successfully integrated into new development, a survey of trees on and adjacent to the site should be one of the first steps in the design process.

How can trees be damaged?

Compaction of the soil

When soil is compacted, the soil structure is damaged by removing the spaces between soil particles preventing the exchange of gases and uptake of nutrients by trees. The storage of materials, including bricks, soil, gravel and cement, and the movement of vehicles can cause compaction. One vehicle movement can cause sufficient compaction to damage a tree.

Compacted ground may alter soil drainage, resulting in the ground becoming waterlogged. The storage of materials and the movement of vehicles within RPAs will only be permitted when it is shown to be absolutely necessary and supported by an agreed robust and realistic Arboricultural Method Statement.

Excavations

Excavations within the RPA are likely to cause root severance. This may lead to loss of vigor, reduced uptake of water and nutrients, allow access for decay organisms and may compromise the tree's stability. Under exceptional circumstances, where excavation may be justified, hand digging will be required and the presence of an arboricultural consultant to supervise the works will be required on site.

Ground level changes

Both reduction and raising of soil levels can be detrimental even if this is only by a few centimeters. Reducing ground levels may sever roots and can increase the drainage of a site thereby reducing water availability. Raising ground levels can cause compaction and suffocate roots. There will be a presumption against the changing of ground levels within RPAs. Changing of ground levels within RPAs will only be permitted when it is shown to be absolutely necessary and supported by an agreed robust and realistic Arboricultural Method Statement.

Impact damage

This can be caused by machinery and includes torn branches, and damage to bark and trunk. Damaged areas of trees can allow the entry of decay organisms and reduced vigour. There will be a presumption against the movement of machinery and equipment within RPAs. The movement of machinery and equipment will only be permitted when it is shown to be absolutely necessary and supported by an agreed robust and realistic Arboricultural Method Statement.

Soil contamination

This can be caused by the spillage of oil, fuel and chemicals, mixing cement or other materials. To prevent leaching through the soil where significant tree roots can be found, all chemicals should be kept in a safe storage area downhill from trees at least 10m from the RPA. There will be a presumption against the storage of chemicals within 10m of the RPAs of retained trees and storage will only be permitted when it is shown to be absolutely necessary and supported by an agreed robust and realistic Arboricultural Method Statement.

Fires

Conducted and radiated heat as well as flames will damage trees resulting in the loss and damage to both major and fibrous roots, and damage to the trees vascular system under the bark even if the bark does not appear burnt. Keep fires a minimum of 10m from the outer crown spread of any retained trees or vegetation. If this clearance is not achievable, all waste must be disposed of off-site.

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Appendix 4: Tree Inspection/Survey Results

Table 1 SURVEY KEY: Abbreviations and categories used in the survey are as follows:

survey are as follows:

Tree Ref.	As per corresponding number on plan. NT denotes no tag.	
Species	Common name and botanical name in italics.	
Height	Estimated height in metres	
Ø	Diameter measured in millimetres at 1.5m above ground level. # indicates estimate	
Branch spread	Measured in metres from the stem to limit of canopy to four cardinal points, N, S, E, W	
H.F.S.B/D.	Height (in metres) of First Significant Branch and Direction.	
H.C.C.	Height of crown clearance - the height to the lowest branch attachments	
Age Class	A description of the life stage of the tree.	
	NP	Newly Planted – up to three years from planting in the stage leading to establishment
	Y	Young – Less than 1/3 of the natural life span
	EM	Early Mature – Between 1/3 and 2/3 of the natural life span
	M	Mature – Over 2/3 of the natural life span
	OM	Over Mature – Over 2/3 of the natural life span and in an obvious state of decline
	V	Veteran – Older than the typical age range of the species and has high conservation and amenity value
Condition: Physiological and Structural	Description of the observed Physiological (vital phenomena / organic functions) and Structural (supporting or essential framework) of the tree	
	Good	A tree with no visible defects
	Fair	A tree with minor defects that if necessary, can be addressed through maintenance or are of no long term significance
	Poor	A tree with major defects that cannot addressed through maintenance and could lead to its early decline
	Dead	Without life
	In addition specific diseases, defects or faults are described.	

Preliminary Recommendations	Recommendations for tree work where observed as necessary, including further investigations of suspected defects which may require more detailed assessment. If blank no works are recommended. CBR – could be retained.			
S.U.L.E.	Safe Useful Life Expectancy - estimated remaining contribution in years			
	Less than 10 years	10-20 years	20 -40 years	More than 40 years
BS Cat.	Category Grading according to BS5837: U or A, B, C.			
Root Protection Area. (RPA)	The root protection in m², as area and radial distance as measured from the centre of the tree stem. Where an # is present the R.P.A. cannot be achieved due to ground constraints, or it is located outside the site.			
Miscellaneous				
MS	Multiple stems			
GL	Ground Level			
Cavities	The physical size of cavities is measured in the following order: Height x Width x Depth. Measurements given are in millimetres.			
DEADWOOD	Deadwood considered for removal. Considered significant in size when at least 50mm in diameter x 1000mm length. Smaller sized pieces are not considered for removal unless stated.			
IBU	Included Bark Union – bark growing in the joint of a union, possibly problematic as the incremental growth forces limbs of the union apart possibly causing at least one to fail over time.			

The following pages show the results of the tree inspection. A '#' adjacent to a figure within the table indicates an estimated measurement.

Table 2 date: 8/5/20 Surveyor: John Wilcockson Weather: Dry, warm.

BS5837 Report

Jon Richards

The Shrubbery

Retention Category	No. trees
B	2
C	7
Total	9

Life Stage	No. trees
Early Mature	4
Mature	4
Semi Mature	1

Rem. Contrib.	No. trees
30+ Years	1
40+ Years	8

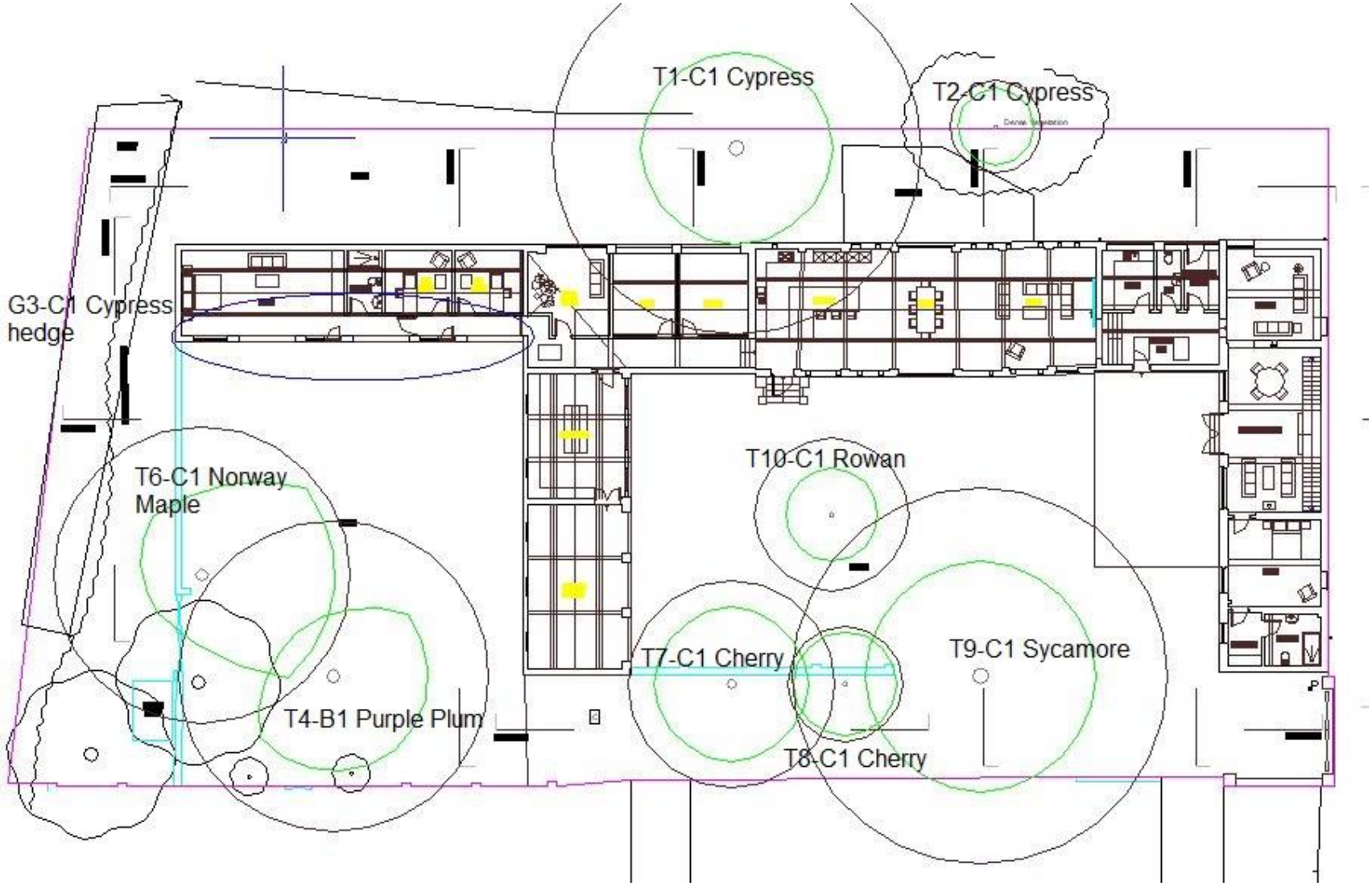
John Wilcockson
Arboricultural Consultant

Ref	Species	Full Structure	Measurements	Spread	General Observations	Retention Category	RPA	Measurements2	Recommendations	Photo
T001	Cypress (Chamaecyparis sp.)	Tree	Height (m): 20 Stem Diam (mm): 800 Spread (m): 5N, 5E, 5S, 5W Crown Clearance (m): 1 Lowest Branch (m): 1 Life Stage: Early Mature	N:5 E:5 S:5 W:5	Crown - Dense Crown Foliage multi stem	C1	Radius: 9.6m. Area: 290 sq m.	Other Reference: Physiological Cond: Good Structural Cond: Good	Remove tree	
T002	Cypress (Chamaecyparis sp.)	Tree 4 stems	Height (m): 5 4 stems, diam(mm): 100, 100, 100, 100, Spread (m): 2N, 2E, 2S, 2W Crown Clearance (m): 1 Life Stage: Semi Mature	N:2 E:2 S:2 W:2	Poor condition, multi stem. basal decay, pruning wounds.	C1	Radius: 2.4m. Area: 18 sq m.	Other Reference: Physiological Cond: Poor Structural Cond: Poor	Remove tree	

G003	Cypress x1 (Chamaecyparis sp.)	Group	Height (m): 18 Stem Diam (mm): 300 Spread (m): 4N, 4E, 4S, 4W Crown Clearance (m): 1 Lowest Branch (m): 1 Life Stage: Early Mature	N:4 E:4 S:4 W:4	Lapsed hedge	C1,2	Area: 22.97 sq m.	Other Reference: Physiological Cond: Good Structural Cond: Good	No action required.	
T004	Purple Cherry Plum (Prunus cerasifera 'Pissardi')	Tree 5 stems	Height (m): 12 5 stems, diam(mm): 300, 300, 300, 300, 300, Spread (m): 5N, 5E, 5S, 3W Crown Clearance (m): 1 Life Stage: Mature	N:5 E:5 S:5 W:3	Dense canopy, old pruning wounds, included unions	B1	Radius: 8.1m. Area: 206 sq m.	Other Reference: Physiological Cond: Good Structural Cond: Good	No action required.	No Photo.
T006	Norway Maple (Acer platanoides)	Tree 3 stems	Height (m): 15 3 stems, diam(mm): 400, 400, 300, Spread (m): 7N, 7E, 3S, 4W Crown Clearance (m): 1 Life Stage: Mature	N:7 E:7 S:3 W:4	Open crown, included unions at base, surface root damage.	B1	Radius: 7.7m. Area: 186 sq m.	Other Reference: Physiological Cond: Fair Structural Cond: Fair	No action required.	
T007	Cherry (Prunus sp. (Cherries))	Tree 6 stems	Height (m): 8 6 stems, diam(mm): 300, 200, 100, 200, 100, 100, Spread (m): 4N, 4E, 4S, 4W Crown Clearance (m): 2 Lowest Branch (m): 2 Life Stage: Early Mature	N:4 E:4 S:4 W:4	Old pruning wounds, included unions at base, tree is damaging wall.	C1	Radius: 5.4m. Area: 92 sq m.	Other Reference: Physiological Cond: Good Structural Cond: Good	Prune back from wall.	

T008	Cherry (Prunus sp. (Cherries))	Tree 5 stems	Height (m): 8 5 stems, diam(mm): 100, 100, 100, 100, 100, Spread (m): 3N, 3E, 3S, 3W Crown Clearance (m): 2 Lowest Branch (m): 2 Life Stage: Early Mature	N:3 E:3 S:3 W:3	Included unions at base.	C1	Radius: 2.7m. Area: 23 sq m.	Other Reference: Physiological Cond: Good Structural Cond: Good	No action required.	
T009	Sycamore (Acer pseudoplatanus)	Tree 3 stems	Height (m): 16 3 stems, diam(mm): 500, 400, 500, Spread (m): 6N, 6E, 6S, 6W Crown Clearance (m): 3 Life Stage: Mature	N:6 E:6 S:6 W:6	Multi stem, Included unions, old pruning wounds.	C1	Radius: 9.7m. Area: 296 sq m.	Other Reference: Physiological Cond: Good Structural Cond: Fair	No action required.	
T010	Rowan (Sorbus aucuparia)	Tree	Height (m): 6 Stem Diam (mm): 200 Spread (m): 4N, 4E, 4S, 4W Crown Clearance (m): 1.5 Life Stage: Mature	N:4 E:4 S:4 W:4	No significant diffects	C1	Radius: 2.4m. Area: 18 sq m.	Other Reference: Physiological Cond: Fair Structural Cond: Fair	No action required.	

Appendix 5: Constraints plans.



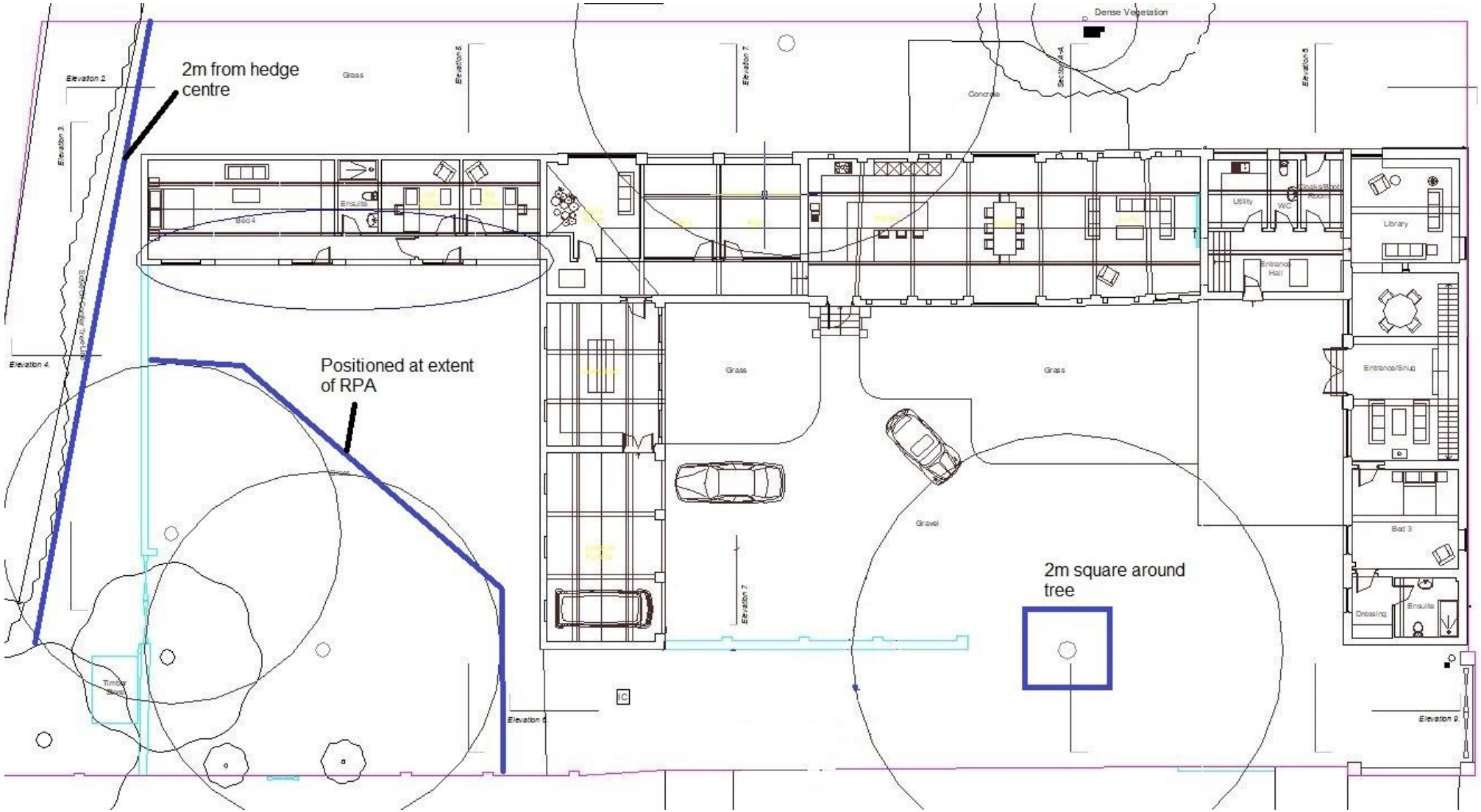
John Wilcockson
Arboricultural Consultant

Appendix 6 - Implications and removals in red.



John Wilcockson
Arboricultural Consultant

Appendix 7 – Tree protection – not to scale

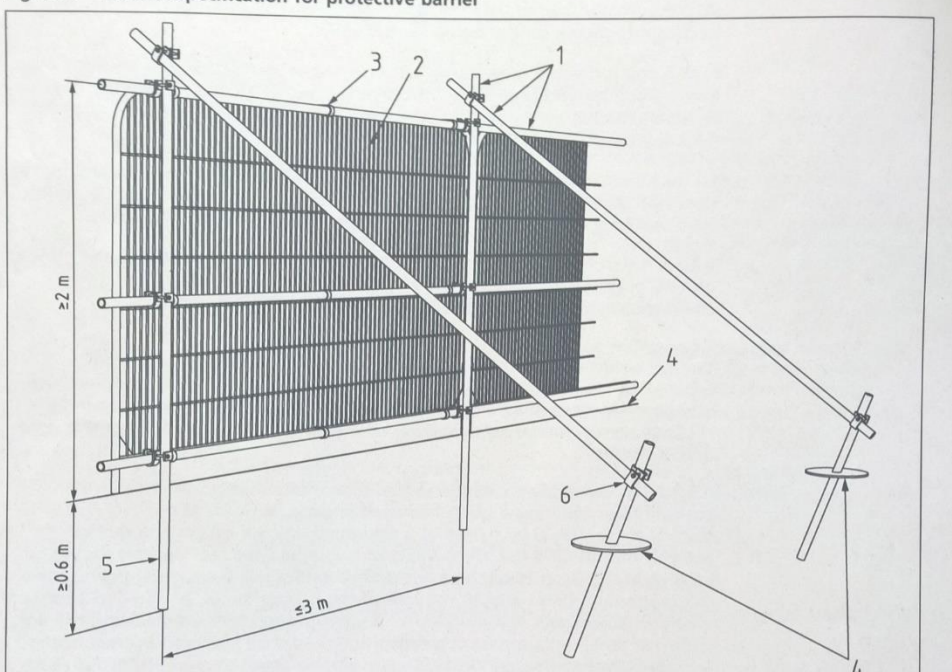


John Wilcockson
Arboricultural Consultant

Appendix 8 fence specifications

For grass area

Figure 2 **Default specification for protective barrier**

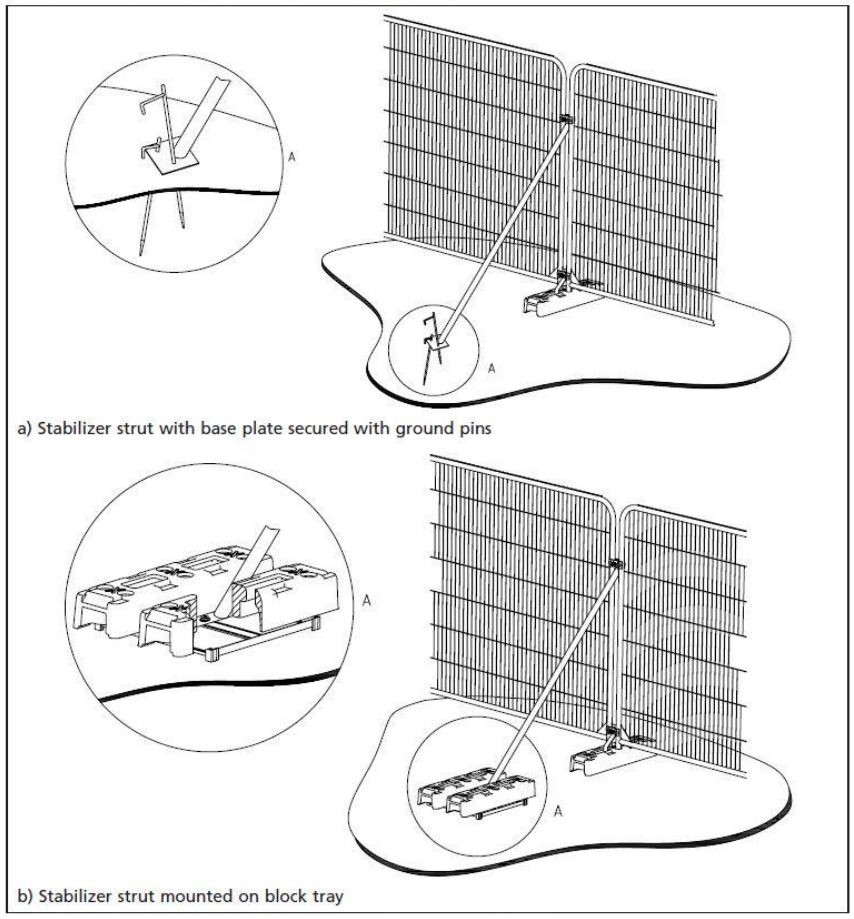


Key

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

For gravel areas

Figure 3 **Examples of above-ground stabilizing systems**



a) Stabilizer strut with base plate secured with ground pins

b) Stabilizer strut mounted on block tray

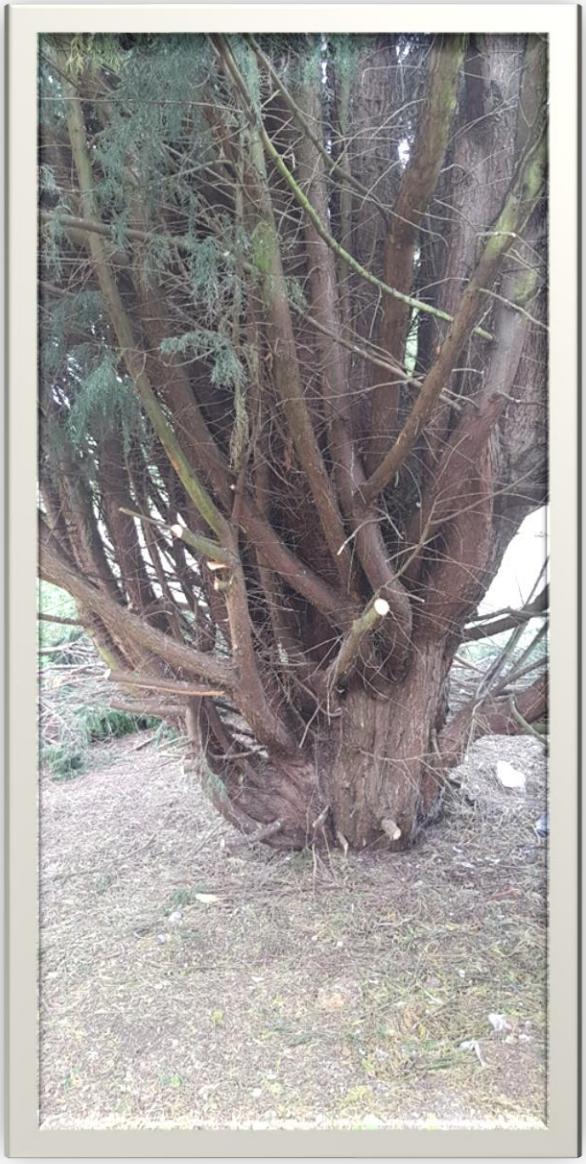
John Wilcockson
Arboricultural Consultant

Appendix 9 Signs



Appendix 10 Site photos

T1





T2



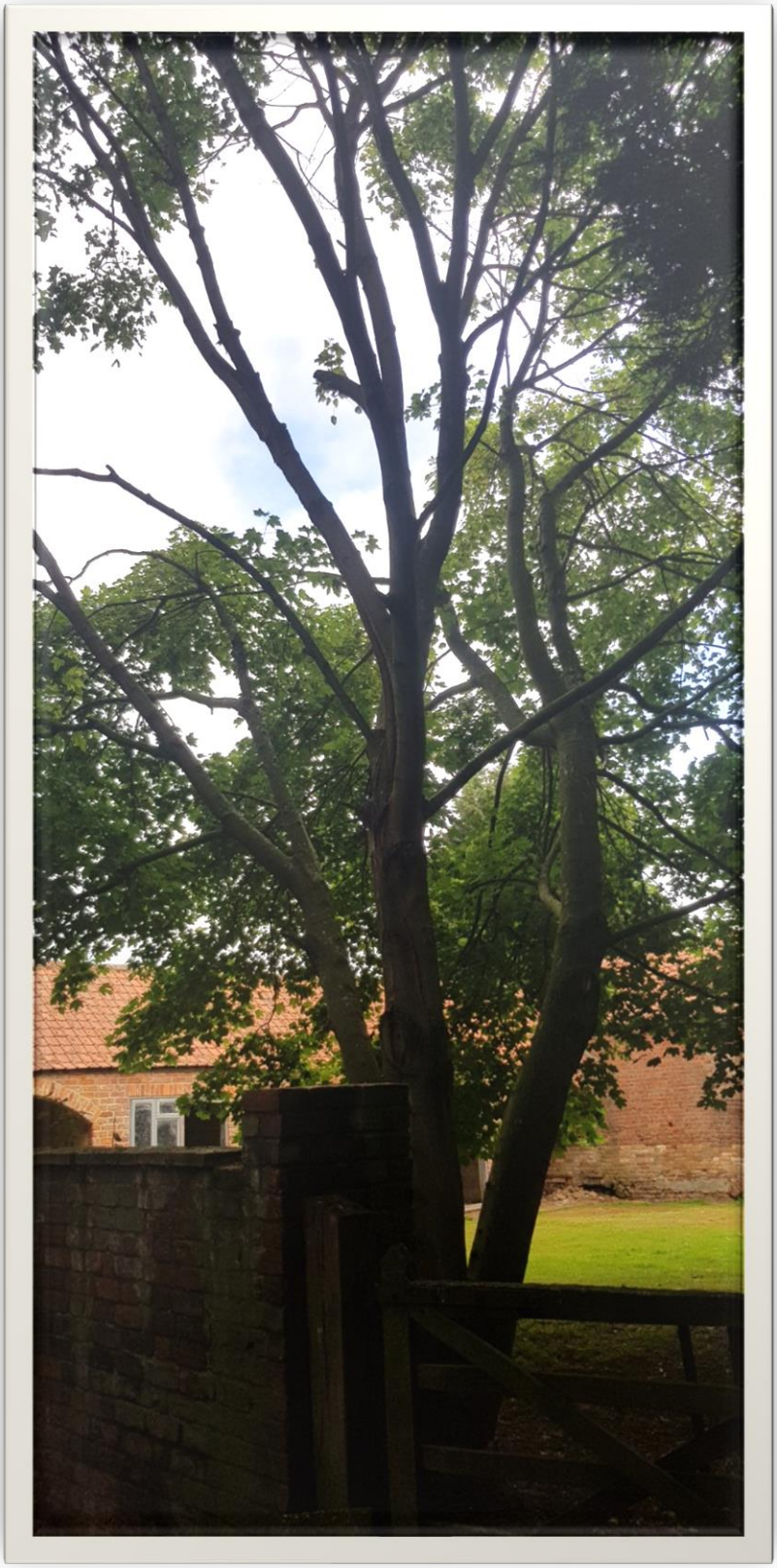
G3



T4

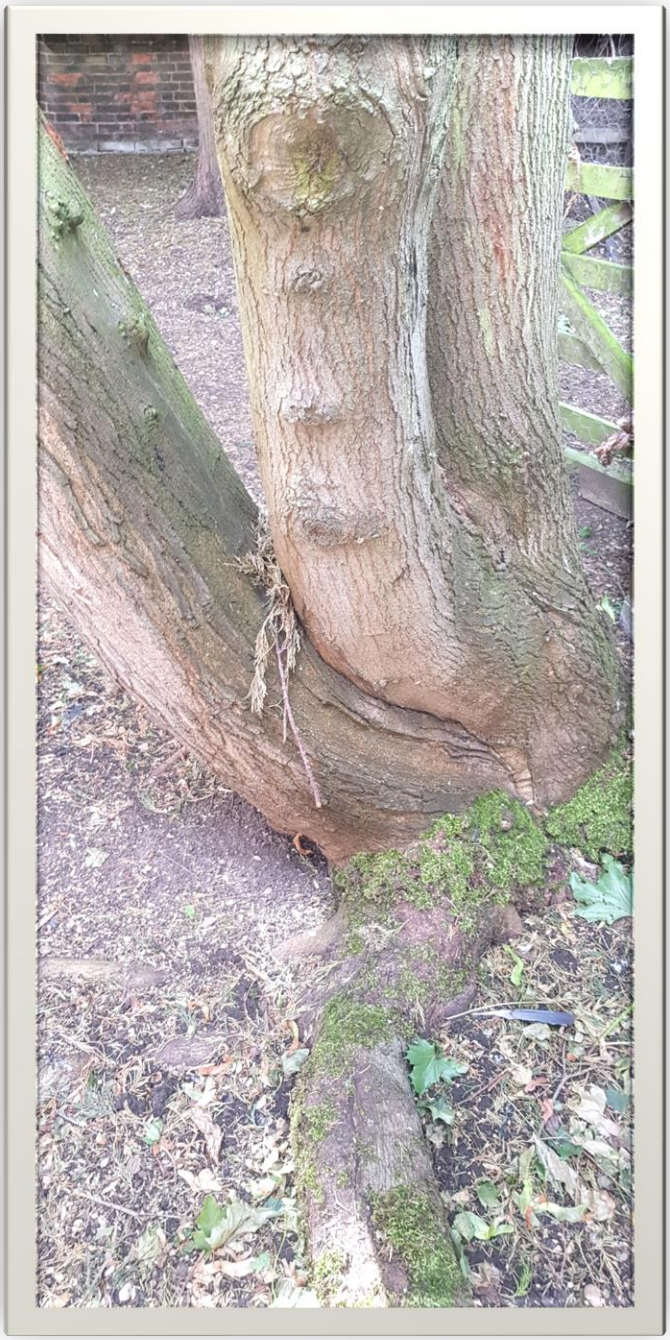


T6

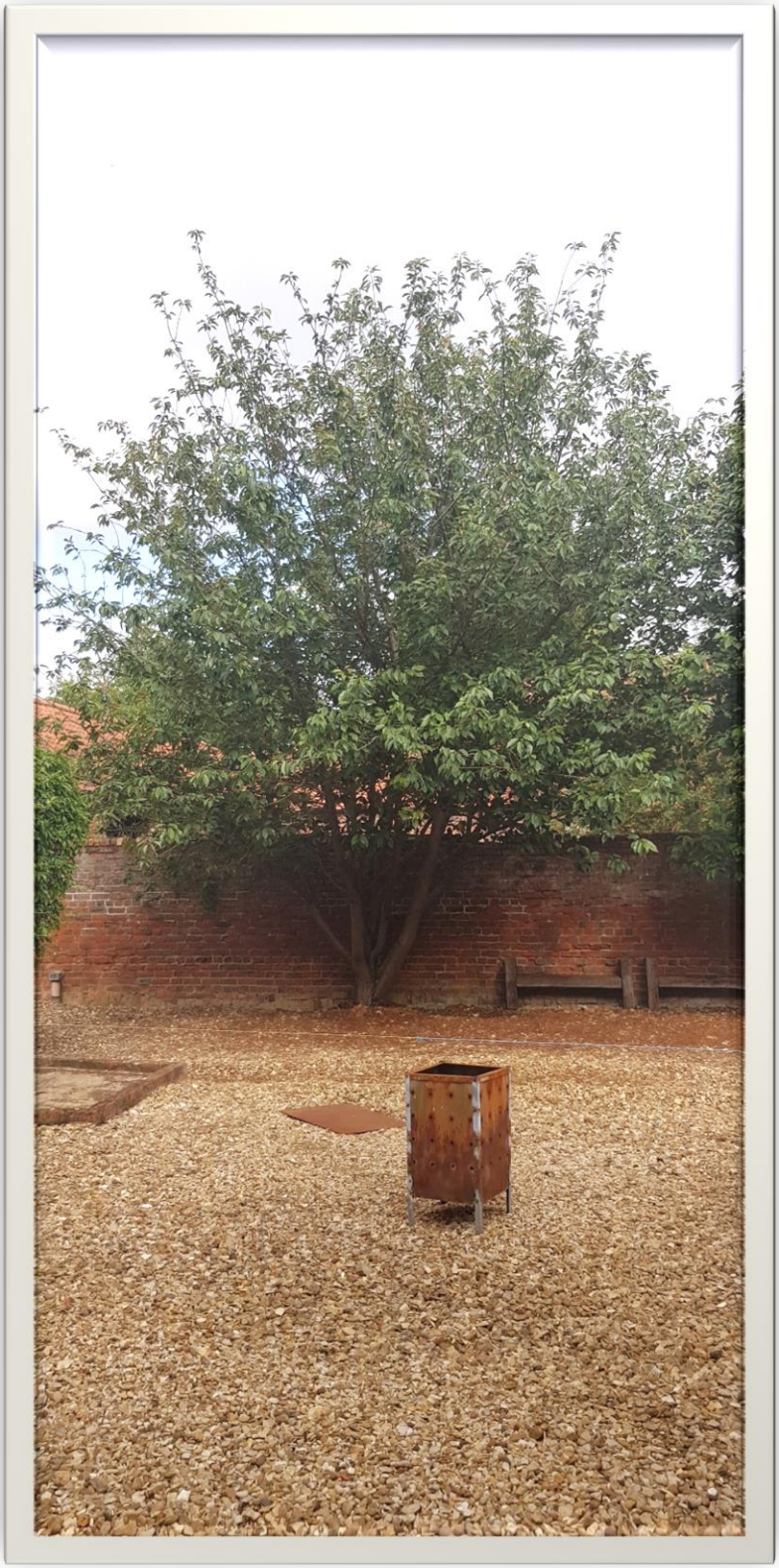


T6

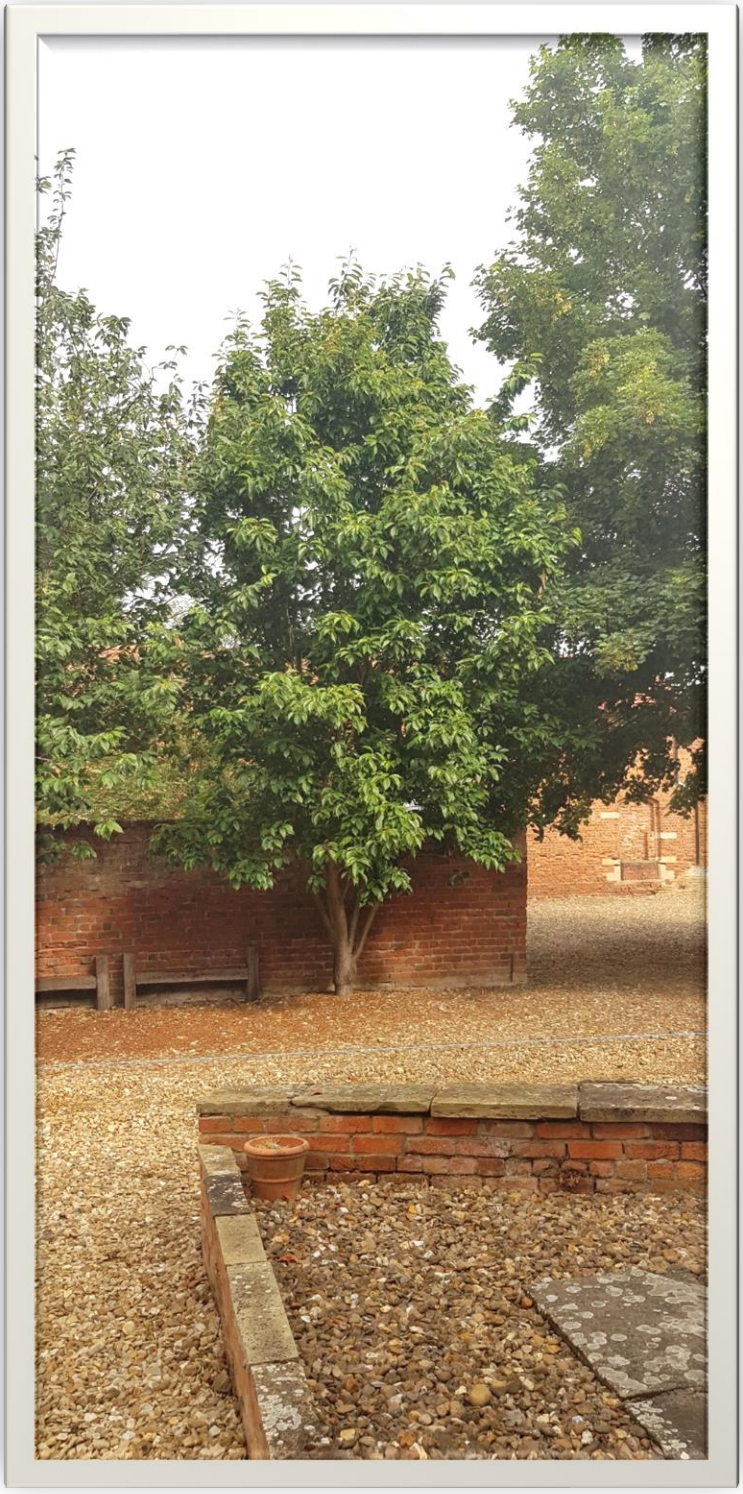




T7



T8

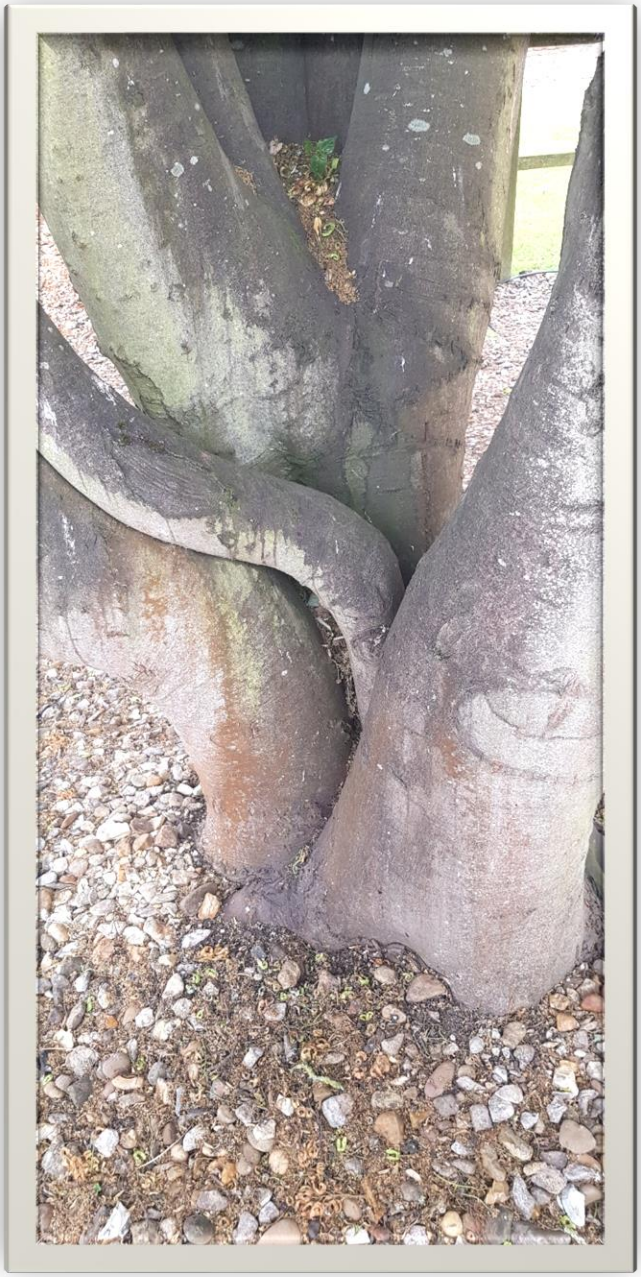


T9



T9





T10

