

**Application for tree works: works to trees subject to a tree preservation order (TPO)
and/or notification of proposed works to trees in a conservation area.**

Town and Country Planning Act 1990

You can complete and submit this form electronically via the Planning Portal by visiting www.planningportal.co.uk/apply

Publication of applications on planning authority websites

Please note that the information provided on this application form and in supporting documents may be published on the Authority's website. If you require any further clarification, please contact the Authority's planning department.

Please complete using block capitals and black ink.

You must use this form if you are applying for work to trees protected by a tree preservation order (TPO). (You may also use it to give notice of works to trees in a conservation area).

It is important that you read the accompanying guidance notes before filling in the form. Without the correct information, your application / notice cannot proceed.

1. Applicant Name and Address

Title: First name:

Last name:

Company (optional):

Unit: House number: House suffix:

House name:

Address 1:

Address 2:

Address 3:

Town:

County:

Country:

Postcode:

2. Agent Name and Address

Title: First name:

Last name:

Company (optional):

Unit: House number: House suffix:

House name:

Address 1:

Address 2:

Address 3:

Town:

County:

Country:

Postcode:

3. Trees Location

If all trees stand at the address shown in Question 1, go to Question 4. Otherwise, please provide the full address/location of the site where the tree(s) stand (including full postcode where available)

Unit:		House number:		House suffix:	
House name:					
Address 1:					
Address 2:					
Address 3:					
Town:					
County:					
Postcode (if known):					

If the location is unclear or there is not a full postal address, either describe as clearly as possible where it is (for example, 'Land to the rear of 12 to 18 High Street' or 'Woodland adjoining Elm Road') or provide an Ordnance Survey grid reference:

Description:

PLEASE SEE REPORTS / PLANS

4. Trees Ownership

Is the applicant the owner of the tree(s): ☒ Yes ☐ No
If 'No' please provide the address of the owner (if known and if different from the trees location)

Title:		First name:	
Last name:			
Company (optional):			
Unit:		House number:	
House name:			
Address 1:			
Address 2:			
Address 3:			
Town:			
County:			
Country:			
Postcode:			
Telephone numbers			
Country code:	National number:	Extension number:	
Country code:	Mobile number (optional):		
Country code:	Fax number (optional):		
Email address (optional):			

5. What Are You Applying For?

Are you seeking consent for works to tree(s) subject to a TPO? ☒ Yes ☐ No

Are you wishing to carry out works to tree(s) in a conservation area? ☐ Yes ☐ No

6. Tree Preservation Order Details

If you know which TPO protects the tree(s), enter its title or number below.

TPO no1 2018

7. Identification Of Tree(s) And Description Of Works

Please identify the tree(s) and provide a full and clear specification of the works you want to carry out. Continue on a separate sheet if necessary. You might find it useful to contact an arborist (tree surgeon) for help with defining appropriate work. Where trees are protected by a TPO, please number them as shown in the First Schedule to the TPO where this is available. Use the same numbers on your sketch plan (see guidance notes).

Please provide the following information below : tree species (and the number used on the sketch plan) and description of works. Where trees are protected by a TPO you must also provide reasons for the work and, where trees are being felled, please give your proposals for planting replacement trees (including quantity, species, position and size) or reasons for not wanting to replant.

E.g. Oak (T3) - fell because of excessive shading and low amenity value. Replant with 1 standard ash in the same place.

T1 Sycamore to remove
T2 Ash to remove
T3 Sycamore to remove
T4 Sycamore to remove
T5 Sycamore to remove
T6 Sycamore to remove

T7 Sycamore to remove
T8 Sycamore to remove
T9 Sycamore to remove
T10 Sycamore to remove
T11 Ash to remove

7. Identification Of Tree(s) And Description Of Works continued ...

Please see report & plans to indicate tree removal & tree planting locations

8. Trees - Additional Information

Additional information may be attached to electronic communications or provided separately in paper format.

For all trees

A sketch plan clearly showing the position of trees listed in Question 7 must be provided when applying for works to trees covered by a TPO. A sketch plan is also advised when notifying the LPA of works to trees in a conservation area (see guidance notes). It would also be helpful if you provided details of any advice given on site by an LPA officer.

For works to trees covered by a TPO

Please indicate whether the reasons for carrying out the proposed works include any of the following. If so, your application must be accompanied by the necessary evidence to support your proposals. (See guidance notes for further details)

1. **Condition of the tree(s)** - e.g. It is diseased or you have fears that it might break or fall: ☒ Yes ☐ No
If YES, you are required to provide written arboricultural advice or other diagnostic information from an appropriate expert.

2. **Alleged damage to property** - e.g. subsidence or damage to drains or drives. ☐ Yes ☐ No
If YES, you are required to provide for:

Subsidence

A report by an engineer or surveyor, to include a description of damage, vegetation, monitoring data, soil, roots and repair proposals. Also a report from an arboriculturist to support the tree work proposals.

Other structural damage (e.g. drains, walls and hard surfaces)

Written technical evidence from an appropriate expert, including description of damage and possible solutions.

Documents and plans (for any tree)

Are you providing separate information (e.g. an additional schedule of work for Question 7)? ☒ Yes ☐ No

If YES, please provide the reference numbers of plans, documents, professional reports, photographs etc in support of your application. If they are being provided separately from this form, please detail how they are being submitted.

Tree condition report and Quantitative tree risk assessment

9. Authority Employee / Member

With respect to the Authority, I am:

- (a) a member of staff (c) related to a member of staff
(b) an elected member (d) related to an elected member

Do any of these statements apply to you?

☐ Yes

☒ No

If Yes, please provide details of the name, relationship and role

10. Application For Tree Works - Checklist

Only one copy of the application form and additional information (Question 8) is required. Please use the guidance and this checklist to make sure that this form has been completed correctly and that all relevant information is submitted. Please note that failure to supply precise and detailed information may result in your application being rejected or delayed. You do not need to fill out this section, but it may help you to submit a valid form.

Sketch Plan

- A sketch plan showing the location of all trees (see Question 8)

☒

For all trees

(see Question 7)

- Clear identification of the trees concerned
- A full and clear specification of the works to be carried out

☒

☒

For works to trees protected by a TPO

(see Question 7)

Have you:

- stated reasons for the proposed works?
- provided evidence in support of the stated reasons? in particular:
 - If your reasons relate to the condition of the tree(s) - written evidence from an appropriate expert
 - If you are alleging subsidence damage - a report by an appropriate engineer or surveyor and one from an arboriculturist.
 - in respect of other structural damage - written technical evidence
- Included all other information listed in Question 8?

☒

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11. Declaration - Trees

I/we hereby apply for planning permission/consent as described in this form and the accompanying plans/drawings and additional information. I/we confirm that, to the best of my/our knowledge, any facts stated are true and accurate and any opinions given are the genuine opinions of the person(s) giving them.

Signed - Applicant:

Date (DD/MM/YYYY):

(This date must not be before the date of sending or hand-delivery of the application)

12. Applicant Contact Details

Telephone numbers

Country code:

National number:

Ext
num

Country code:

Mobile number (optional):

Country code:

Fax number (optional):

Email address (optional):

Electronic communication - If you submit this form by fax or
(Please see guidance notes)



Tree condition report and Quantitative Tree Risk Assessment

At:

**6 Hall Close
Worsbrough
Barnsley**

For:

Alan Wyatt

Nov 2018

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Executive Summary

A Quantitative Tree Risk Assessment (QTRA) was undertaken on various trees at Hall Close, Worsbrough, Barnsley. Details of the risk of harm from the assessed trees are provided in the Table at **APPENDIX 1**.

Generally the risk of harm is calculated as being generally within tolerable limits.

However the condition of the trees is poor for various reasons and so on balance their removal and replacement is recommended.

1. Purpose & Brief

- 1.1 We have been commissioned by Alan Wyatt of 6 Hall Close, Worsbrough Hall to undertake a Quantitative Tree Risk Assessment (QTRA) on the trees at the site and to inform management recommendations.
- 1.2 We have therefore assessed various trees and items for risk and have provided the following:
 - Tree risk assessment survey
 - Tree risk assessment plan
 - Tree management recommendations (where appropriate)

2. Limitations

- 2.1 This report, plan and associated digital files remain the copyright of Acorn Arboriculture and the transfer of rights to any third party must be with our express written consent.
- 2.2 The assessment of risk from falling trees is substantially informed by the land use, which is assessed as viewed during the site visit and by applying a general understanding of land usage patterns.
- 2.3 Over time, the occupancy rates and values might change and if the client recognises any significant changes, errors or under or over estimates they should notify Acorn Arboriculture immediately.
- 2.4 Assessment of the potential influence of trees upon buildings or other structures from the effects of trees abstracting water from shrinkable load-bearing soils (subsidence), was not included in the client's instruction and is not considered here.
- 2.5 The assessment of trees was carried out from ground level. The disclosure of hidden crown defects cannot, therefore, be expected and in the view of the surveyor, climbing inspections were not considered to be necessary and so were not undertaken.
- 2.6 The assessment of some trees may have been restricted where trees were ivy-clad or where views were obscured by basal growth, other vegetation or leaf/needle coverage.
- 2.7 The content of this report may become invalidated if a change of circumstance affecting the trees arises as a result of unusual weather conditions. Particularly storms and high winds.
- 2.8 Structural or chemical soil disruption around the tree may invalidate the findings in this report, especially where there is significant damage to the root area of the tree.
- 2.9 The contents of this survey may become invalidated by any 'Force Majeure' such as significant natural or man-made disasters out of the control of any specific party.
- 2.10 The report is issued for the purposes of the instructing client in the form it is given and therefore no liability is accepted to any other party where reproduction, manipulation or reliance upon any incorrect representation of this report has been undertaken.

3. Statutory Controls

- 3.1 There is a Tree Preservation Order (TPO) No1 2018 on the trees and the site is also within a Conservation Area. The Local Planning Authorities consent for any work is therefore generally required.
- 3.2 The Wildlife and Countryside Act 1981 (together with the amendments of 1985 & 1991, the subsequent variations to the schedule orders, and strengthening amendments made within the Countryside and Rights of Way Act 2000) forms the basis for legislation protecting Britain's flora and fauna. Nesting birds and all species of bat are afforded statutory protection. It is therefore important to be vigilant when implementing tree and woodland management operations and an appropriate level of risk assessment should be carried out in consideration of the following:
- disturbing a nesting bird
 - disturbing a roosting bat or damaging, destroying or blocking access to a bat roost
 - intentionally killing, injuring or taking a bat
 - being in possession or control of a bat or anything derived from a bat

4. Introduction & QTRA Methodology

- 4.1 The Quantitative Tree Risk Assessment (QTRA) is structured to take a reasonable and proportionate view of the trees at the site in consideration of the risk. QTRA attempts to balance safety with a reasonable approach to tree management and the cost of risk reduction by taking into account the principles that the risk is As Low As Reasonably Practicable (ALARP), and the Tolerability of Risk threshold (ToR) (HSE 2001).
- 4.2 The ToR is generally recognised as an acceptable method of breaking risk down into acceptable, unacceptable or tolerable thresholds. QTRA recommends that the upper limit of the tolerable risk threshold is 1/10,000.
- 4.3 A tree with a greater risk of significant harm of 1 in 10,000 within one year may require pruning work or felling to reduce the landowners liability to a reasonably acceptable or tolerable level.
- 4.4 The 1 in 10,000 threshold for tolerability of reasonable risk is a guide for implementing risk control measures such as pruning or felling. For instance where there is a particularly valuable tree, tree owners may wish to accept a higher risk.
- 4.5 The general thresholds (which require the agreement of the tree owner) are detailed in Table 1 below.

Thresholds	Description	Action
1/1,000	Unacceptable Risks will not ordinarily be tolerated	• Control the risk
	Unacceptable (where imposed on others) Risks will not ordinarily be tolerated	• Control the risk • Review the risk
	Tolerable (by agreement) Risks may be tolerated if those exposed to the risk accept it, or the tree has exceptional value	• Control the risk unless there is broad stakeholder agreement to tolerate it, or the tree has exceptional value • Review the risk
1/10,000	Tolerable (where imposed on others) Risks are tolerable if ALARP	• Assess costs and benefits of risk control • Control the risk only where a significant benefit might be achieved at reasonable cost • Review the risk
1/1,000,000	Broadly Acceptable Risk is already ALARP	• No action currently required • Review the risk

Table 1 above

- 4.6 Recommendations in this report will enable you to make informed risk management decisions but where the safety from falling trees is concerned please note that no tree can be identified as being of no risk or “safe” because the retention of any tree usually carries some degree of risk. For example a large tree over a road with a weakly attached branch in imminent risk of failure would be in a higher risk of causing significant harm compared to the same tree located in the middle of an open field.
- 4.7 The framework for assessment involves three main factors, these being Target, Size and Probability of Failure. Of these three the Probability of Failure assessment is inherently more subjective than the other two. However the QTRA methodology attempts to produce a structured and reproducible method to assess risk by referring to the value ranges but it is up to the assessor to decide which is the most appropriate value range rather than attempt to estimate an exact probability.
- 4.8 The calculations are based upon site observations within the current land use and assumed pedestrian and vehicular frequency levels. Significant negative or positive change of use for occupation, vehicle or pedestrian frequency, be they permanent or temporary can have a significant effect on the risk calculation.
- 4.9 The QTRA method does not attempt to predict what may or may not happen but it merely provides an estimate of the risk from a particular tree related hazard with the result dependent upon the input from the user.

4.9.1 Target

- 4.9.1.1 When assessing risks in relation to the buildings the target may be the building, the occupants or both and the user should consider if the occupants are afforded protection from the building or exposed to harm in the event of failure.

4.9.2 Size

- 4.9.2.1 For property targets the estimated cost of repair or replacement is considered the major consequence. The size component is not used in the calculation as QTRA assumes this is fully accounted for within the estimation for rebuild costs, dependent on the damage caused in the event of failure.

4.9.3 Probability of Failure

- 4.9.3.1 Based on the assessors, observations the most likely risk of failure in a tree is assessed for the coming year. The assessor will usually consider whether whole tree failure or a failure within the crown is most likely, but sometimes two calculations/assessments are made per tree where appropriate. The calculated risk scores are shown in the tree schedule at **APPENDIX 1**.

5. The Site

- 5.1 The site is located off Hall Close which is a semi-rural location and comprising of a cul de sac with dwellings to the north and west.
- 5.2 The subject site being an open space containing trees to the east.
- 5.3 The trees comprise of a number of self-set Sycamore and Ash located roughly in a line along the road side, with the land where the trees are located dropping down to the east.
- 5.4 The area has a good population of a variety of trees with an alternate age ranges and there is nearby woodland.

6. Survey Methodology

- 6.1 The surveyed trees were plotted, either individually, by group or by woodland onto a survey based plan produced by Acorn Arboriculture with sufficient accuracy to identify their locations.
- 6.2 Individual trees are prefixed "T", groups of trees by "G" and woodland by "W", e.g. T7, G2, W4.
- 6.3 The trees were assessed from ground level using the 'walkover assessment' method, recording the general attributes of groups and identifying trees that justify either an individual record or a greater level of assessment by virtue of their location and their structural or physiological state. A detailed assessment of each and every tree has not been carried out, but a reasonable view has been taken of trees within the site. If further survey/assessment work is required please contact us.
- 6.4 The survey notes and management recommendations are set out in the risk assessment schedule, and the management recommendations are reproduced in schedules.
- 6.5 Trees often contain dead branches, cavities and other structural defects but these are recorded in the schedule only where they could significantly affect the outcome of the risk assessment, or where there are other management reasons to do so.

6.6 Surveyor/s

- Mark Jennings HND Urban Arboriculture, HND Amenity Horticulture

7. Significant Findings

- 7.1 Details of the trees and the risk is presented below at **APPENDIX 1** and the locations of the trees are shown on the site plan at **APPENDIX 4**.
- 7.2 A number of the trees exhibit various defects.
- 7.3 Of greatest concern is the combination of historic root damage due to adjacent approved construction work and more recent fire damage which has had a significant negative impact on the trees. For instance, one Sycamore tree has already recently failed. The landowner is to replace this tree.
- 7.4 A number of the trees are dying back and appeared to be in terminal decline. For instance, trees T5, T6, T7 and T8 have been so badly damaged by fire that there is little prospect of structural recovery due to the observed low vigour.
- 7.5 The remaining trees (with the exception of T2 Ash which is a reasonable specimen) but are not particularly attractive.
- 7.6 It is considered that the removal of the worst trees could not be reasonably opposed by the LPA but that their loss (T5-T8) would leave the remaining tree line fragmented, the individual trees one sided, even less attractive, over exposed and a slightly elevated risk of significant harm.
- 7.7 Taking everything into consideration it is recommended that for various reasons that the loss of the group and their replacement with good quality tree stock would be in the best interests of good arboricultural management.
- 7.8 Although the loss of a linear tree feature would have an immediate and slightly negative impact on visual amenity, replacement planting will have a much more positive long term outcome.
- 7.10 New trees (*Tilia cordata* and *Carpinus betulus Fastigiata* are recommended) as replacements. The planting plan is at **APPENDIX 5**.
- 7.11 These would form a more visually pleasing feature and if the LPA was minded to it could make a new TPO on the replacements (if it allowed consent) to ensure appropriate control measures were in place and the new trees were managed (subject to submission of TPO applications) in accordance with sound arboriculture.

Appendix 1 - Tree Schedule

Item No.	Species	Height (m)	Stem diameter (mm)	Crown Spread (m)	Age Class	Physiological Condition	Life Expectancy (years)	Risk Category
T1	Sycamore <i>A. pseudoplatanus</i>	12+	300	5	Semi Mature	Fair/Poor	10+	1:500K
Structural Condition/Notes: - Edge tree - Slight lean - Reaction growth at base - Stubs - Deadwood - Over Road						Action: Remove		
T2	Ash <i>F. excelsior</i>	16+	500	8	Mature	Fair	10+	1:800K
Structural Condition/Notes: - Stubs - High crown - Tight upper fork - Reaction growth in crown and base						Action: Remove		
T3	Sycamore <i>A. pseudoplatanus</i>	16+	250	7	Mature	Fair/Poor	10+	1:500K
Structural Condition/Notes: - Slight lean - Ivy clad - Deadwood, dieback - Tight fork - Reaction growth at base						Action: Remove		
T4	Sycamore <i>A. pseudoplatanus</i>	16+	600	7	Mature	Poor	10	1:40K
Structural Condition/Notes: - Slight lean - Tight lower fork - Ribbing - Included bark - Tight upper branch framework - Deadwood						Action: Remove		
T5	Sycamore <i>A. pseudoplatanus</i>	12	150	3	Semi mature	Poor	10	1:100K
Structural Condition/Notes: - Slight lean - Stubs - Dieback - No long term value						Action: Remove		
T6	Sycamore <i>A. pseudoplatanus</i>	16+	350	6	Mature	Poor	10	1:500K
Structural Condition/Notes: - Etiolated - Tight fork - Basal fire damage - Deadwood - No long term value						Action: Remove		

Item No.	Species	Height (m)	Stem diameter (mm)	Crown Spread (m)	Age Class	Physiological Condition	Life Expectancy (years)	Risk Category
T7	Sycamore <i>A. pseudoplatanus</i>	16+	600	8	Mature	Poor	10	1:500K
Structural Condition/Notes: - Badly fire damaged - Bark cambium death from ground to 2m - Lower branch death - Deadwood						Action: Remove		
T8	Sycamore <i>A. pseudoplatanus</i>	16+	550	7	Mature	Fair	10	1:500K
Structural Condition/Notes: - Fire damaged - Stubs - Deadwood						Action: Remove		
T9	Sycamore <i>A. pseudoplatanus</i>	12	100/300	5	Semi Mature	Poor	10	1:100K
Structural Condition/Notes: - Slight lean - Trifurcate - Tight forks - Reaction growth - Stubs - Deadwood - Ribbing - Branch occlusion						Action: Remove		
T10	Sycamore <i>A. pseudoplatanus</i>	12	250	5	Semi Mature	Poor	10	1:500K
Structural Condition/Notes: - Slight lean - Deadwood - Raised levels - Reaction growth - No long term future						Action: Remove		
T11	Ash <i>F. excelsior</i>	12	360	10	Mature	Moderate	10+	1:500K
Structural Condition/Notes: - Deadwood - Slight lean - Stubs - Damage at base - Cavity – no occlusion - No long term future						Action: Remove		
F1	Sycamore <i>A. pseudoplatanus</i>							
Structural Condition/Notes: Failed due to damage/decay						Action:		

Item No.	Species	Height (m)	Stem diameter (mm)	Crown Spread (m)	Age Class	Physiological Condition	Life Expectancy (years)	Risk Category
R1	Sycamore <i>A. pseudoplatanus</i>							
Structural Condition/Notes: Removed with consent						Action:		
R2	Ash <i>F. excelsior</i>							
Structural Condition/Notes: Removed with consent						Action:		
S1	Sycamore <i>Acer pseudoplatanus</i>							
Structural Condition/Notes: Stump regrowth						Action:		

Appendix 2 – General Guidelines and Terms and Conditions

1. All tree work should be carried out by qualified Arboricultural Contractors with at least £1 Million Public Liability Insurance cover.
2. Tree work must be carried out to BS3998:2010 which specifies recommendations for tree work.
3. The acceptance of this report constitutes an agreement with the terms and guidelines listed within this report.
4. No liability can be accepted by the consultant in respect of the trees unless the recommendations within this report are carried out under his supervision. Nor shall the consultant be responsible for events which happen after the time of the survey due to factors which were not evident at the time.
5. Tree work is inherently dangerous and should only be undertaken by insured, qualified contractors the following contractor is suitably qualified and insured to carry out tree works.
6. The contents, recommendations and guidance are valid for 12 months maximum from the date of issue.
7. Acorn Arboriculture accepts no responsibility for any issues arising that is outside its control and could adversely affects trees, or for issues which were not apparent during the site assessment.
8. Trees will usually require re-assessment in 12 months, or as otherwise stated in the report or as otherwise dictated by budget constraints to be considered by the landowner.

Appendix 3 - Glossary of Arboricultural Terms

Abscission. The shedding of a leaf or other short-lived part of a woody plant, involving the formation of a corky layer across its base; in some tree species twigs can be shed in this way

Abiotic. Pertaining to non-living agents; e.g. environmental factors

Absorptive roots. Non-woody, short-lived roots, generally having a diameter of less than one millimetre, the primary function of which is uptake of water and nutrients

Adaptive growth. In tree biomechanics, the process whereby the rate of wood formation in the cambial zone, as well as wood quality, responds to gravity and other forces acting on the cambium. This helps to maintain a uniform distribution of mechanical stress

Adaptive roots. The adaptive growth of existing roots; or the production of new roots in response to damage, decay or altered mechanical loading

Adventitious shoots. Shoots that develop other than from apical, axillary or dormant buds; see also 'epicormic'

Anchorage. The system whereby a tree is fixed within the soil, involving cohesion between roots and soil and the development of a branched system of roots which withstands wind and gravitational forces transmitted from the aerial parts of the tree

Architecture. In a tree, a term describing the pattern of branching of the crown or root system

Axil. The place where a bud is borne between a leaf and its parent shoot

Bacteria. Microscopic single-celled organisms, many species of which break down dead organic matter, and some of which cause diseases in other organisms

Bark. A term usually applied to all the tissues of a woody plant lying outside the vascular cambium, thus including the phloem, cortex and periderm; occasionally applied only to the periderm or the phellem

Basidiomycotina (Basidiomycetes). One of the major taxonomic groups of fungi; their spores are borne on microscopic peg-like structures (basidia), which in many types are in turn borne on or within conspicuous fruit bodies, such as brackets or toadstools. Most of the principal decay fungi in standing trees are basidiomycetes

Bolling. A term sometimes used to describe pollard heads

Bottle-butt. A broadening of the stem base and buttresses of a tree, in

excess of normal and sometimes denoting a growth response to weakening in that region, especially due to decay involving selective delignification

Bracing. The use of rods or cables to restrain the movement between parts of a tree

Branch:

- **Primary.** A first order branch arising from a stem
- **Lateral.** A second order branch, subordinate to a primary branch or stem and bearing sub-lateral branches
- **Sub-lateral.** A third order branch, subordinate to a lateral or primary branch, or stem and usually bearing only twigs

Branch bark ridge. The raised arc of bark tissues that forms within the acute angle between a branch and its parent stem

Branch collar. A visible swelling formed at the base of a branch whose diameter growth has been disproportionately slow compared to that of the parent stem; a term sometimes applied also to the pattern of growth of the cells of the parent stem around the branch base

Brown-rot. A type of wood decay in which cellulose is degraded, while lignin is only modified

Buckling. An irreversible deformation of a structure subjected to a bending load

Buttress zone. The region at the base of a tree where the major lateral roots join the stem, with buttress-like formations on the upper side of the junctions

Cambium. Layer of dividing cells producing xylem (woody) tissue internally and phloem (bark) tissue externally

Canker. A persistent lesion formed by the death of bark and cambium due to colonisation by fungi or bacteria

Canopy species. Tree species that mature to form a closed woodland canopy

Compartmentalization. The confinement of disease, decay or other dysfunction within an anatomically discrete region of plant tissue, due to passive and/or active defences operating at the boundaries of the affected region

Compression fork. An acute angled fork that is mechanically optimised for the growth pressure that two or more adjacent stems exert on each other.

Compression strength. The ability of a material or structure to resist failure when subjected to compressive loading; measurable in trees with special drilling devices

Compressive loading. Mechanical loading which exerts a positive pressure; the opposite to tensile loading

Condition. An indication of the physiological vitality of the tree. Where the term 'condition' is used in a report, it should not be taken as an indication of the stability of the tree

Construction exclusion zone. Area based on the Root Protection Area (in square metres) to be protected during development, by the use of barriers and/or ground protection

Crown/Canopy. The main foliage bearing section of the tree

Crown lifting. The removal of limbs and small branches to a specified height above ground level

Crown thinning. The removal of a proportion of secondary branch growth throughout the crown to produce an even density of foliage around a well balanced branch structure

Crown reduction/shaping. A specified reduction in crown size whilst preserving, as far as possible, the natural tree shape

Crown reduction/thinning. Reduction of the canopy volume by thinning to remove dominant branches whilst preserving, as far as possible the natural tree shape

Deadwood. Dead branch wood

Decurrent. In trees, a system of branching in which the crown is borne on a number of major widely-spreading limbs of similar size (cf. excurrent). In fungi with toadstools as fruit bodies, the description of gills which run some distance down the stem, rather than terminating abruptly

Defect. In relation to tree hazards, any feature of a tree which detracts from the uniform distribution of mechanical stress, or which makes the tree mechanically unsuited to its environment

Delamination. The separation of wood layers along their length, visible as longitudinal splitting

Dieback. The death of parts of a woody plant, starting at shoot-tips or root-tips

Disease. A malfunction in or destruction of tissues within a living organism, usually excluding mechanical damage; in trees, usually caused by pathogenic micro-organisms

Distal. In the direction away from the main body of a tree or subject organism (cf. proximal)

Dominance. In trees, the tendency for a leading shoot to grow faster or more vigorously than the lateral shoots; also the tendency of a tree to maintain a taller crown than its neighbours

Dormant bud. An axil bud which does not develop into a shoot until after the formation of two or more annual wood

increments; many such buds persist through the life of a tree and develop only if stimulated to do so

Dysfunction. In woody tissues, the loss of physiological function, especially water conduction, in sapwood

DBH (Diameter at Breast Height). Stem diameter measured at a height of 1.5 metres (UK) or the nearest measurable point. Where measurement at a height of 1.5 metres is not possible, another height may be specified

Deadwood. Branch or stem wood bearing no live tissues. Retention of deadwood provides valuable habitat for a wide range of species and seldom represents a threat to the health of the tree. Removal of deadwood can result in the ingress of decay to otherwise sound tissues and climbing operations to access deadwood can cause significant damage to a tree.

Removal of deadwood is generally recommended only where it represents an unacceptable level of hazard

Endophytes. Micro-organisms which live inside plant tissues without causing overt disease, but in some cases capable of causing disease if the tissues become physiologically stressed, for example by lack of moisture

Epicormic shoot. A shoot having developed from a dormant or adventitious bud and not having developed from a first year shoot

Excrecence. Any abnormal outgrowth on the surface of tree or other organism

Excurent. In trees, a system of branching in which there is a well defined central main stem, bearing branches which are limited in their length, diameter and secondary branching (cf. decurrent)

Fastigate. Having upright, often clustered branches

Felling licence. In the UK, a permit to fell trees in excess of a stipulated number of stems or volume of timber

Flush-cut. A pruning cut which removes part of the branch bark ridge and or branch-collar

Girdling root. A root which circles and constricts the stem or roots possibly causing death of phloem and/or cambial tissue

Guying. A form of artificial support with cables for trees with a temporarily inadequate anchorage

Habit. The overall growth characteristics, shape of the tree and branch structure

Hazard beam. An upwardly curved part of a tree in which strong internal stresses may occur without being reduced by adaptive growth; prone to longitudinal splitting

Heartwood/false-heartwood/ripewood. Sapwood that has become dysfunctional as part of the natural aging processes

Heave. A term mainly applicable to a shrinkable clay soil which expands due to re-wetting after the felling of a tree which was previously extracting moisture from the deeper layers; also the lifting of pavements and other structures by root diameter expansion; also the lifting of one side of a windrocked root-plate

High canopy tree species. Tree species having potential to contribute to the closed canopy of a mature woodland or forest

Incipient failure. In wood tissues, a mechanical failure which results only in deformation or cracking, and not in the fall or detachment of the affected part

Included bark (ingrown bark). Bark of adjacent parts of a tree (usually forks, acutely joined branches or basal flutes) which is in face-to-face contact

Increment borer. A hollow auger, which can be used for the extraction of wood cores for counting or measuring wood increments or for inspecting the condition of the wood

Infection. The establishment of a parasitic micro-organism in the tissues of a tree or other organism

Internode. The part of a stem between two nodes; not to be confused with a length of stem which bear nodes but no branches

Lever arm. A mechanical term denoting the length of the lever represented by a structure that is free to move at one end, such as a tree or an individual branch

Lignin. The hard, cement-like constituent of wood cells; deposition of lignin within the matrix of cellulose microfibrils in the cell wall is termed Lignification

Lions tailing. A term applied to a branch of a tree that has few if any side-branches except at its end, and is thus liable to snap due to endloading

Loading. A mechanical term describing the force acting on a structure from a particular source; e.g. the weight of the structure itself or wind pressure

Longitudinal. Along the length (of a stem, root or branch)

Lopping. A term often used to describe the removal of large branches from a tree, but also used to describe other forms of cutting

Mature Heights (approximate):

- **Low maturing** – less than 8 metres high
- **Moderately high maturing** – 8 – 12 metres high
- **High maturing** – greater than 12 metres high

Microdrill. An electronic rotating steel probe, which when inserted into woody tissue provides a measure of tissue density

Minor deadwood. Deadwood of a diameter less than 25mm and or unlikely to cause significant harm or damage upon impact with a target beneath the tree

Mulch. Material laid down over the rooting area of a tree or other plant to help conserve moisture; a mulch may consist of organic matter or a sheet of plastic or other artificial material

Mycelium. The body of a fungus, consisting of branched filaments (hyphae)

Occluding tissues. A general term for the roll of wood, cambium and bark that forms around a wound on a woody plant (cf. woundwood)

Occlusion. The process whereby a wound is progressively closed by the formation of new wood and bark around it

Pathogen. A micro-organism which causes disease in another organism

Photosynthesis. The process whereby plants use light energy to split hydrogen from water molecules, and combine it with carbon dioxide to form the molecular building blocks for synthesizing carbohydrates and other biochemical products

Phytotoxic. Toxic to plants

Pollarding. The removal of the tree canopy, back to the stem or primary

branches, usually to a point just outside that of the previous cutting.

Pollarding may involve the removal of the entire canopy in one operation, or may be phased over several years. The period of safe retention of trees having been pollarded varies with species and individuals. It is usually necessary to re-pollard on a regular basis, annually in the case of some species

Primary branch. A major branch, generally having a basal diameter greater than 0.25 x stem diameter

Primary root zone. The soil volume most likely to contain roots that are critical to the health and stability of the tree and normally defined by reference BS5837 (2012)

Probability. A statistical measure of the likelihood that a particular event might occur

Proximal. In the direction towards from the main body of a tree or other living organism (cf. distal)

Pruning. The removal or cutting back of twigs or branches, sometimes applied to twigs or small branches only, but often used to describe most activities involving the cutting of trees or shrubs

Radial. In the plane or direction of the radius of a circular object such as a tree stem

Rams-horn. In connection with wounds on trees, a roll of occluding tissues which has a spiral structure as seen in cross-section

Rays. Strips of radially elongated parenchyma cells within wood and bark.

The functions of rays include food storage, radial translocation and contributing to the strength of wood

Reactive Growth/Reaction Wood. Production of woody tissue in response to altered mechanical loading; often in response to internal defect or decay and associated strength loss (cf. adaptive growth)

Removal of dead wood. Unless otherwise specified, this refers to the removal of all accessible dead, dying and diseased branchwood and broken snags

Removal of major dead wood. The removal of, dead, dying and diseased branchwood above a specified size **Respacing.** Selective removal of trees from a group or woodland to provide space and resources for the development of retained trees.

Residual wall. The wall of non-decayed wood remaining following decay of internal stem, branch or root tissues

Ring-barking (girdling). The removal of a ring of bark and phloem around the circumference of a stem or branch, normally resulting in an inability to transport photosynthetic assimilates below the area of damage. Almost inevitably results in the eventual death of the affected stem or branch above the damage.

Root-collar. The transitional area between the stem/s and roots

Root-collar examination. Excavation of surfacing and soils around the root-collar to assess the structural integrity of roots and/or stem

Root protection area. An area of ground surrounding a tree that contains sufficient rooting volume to ensure the tree's survival. Calculated with reference BS5837 (2012) and shown in plan form in square metres

Root zone. Area of soils containing absorptive roots of the tree/s described.

The **Primary** root zone is that which we consider of primary importance to the physiological well-being of the tree

Sapwood. Living xylem tissues

Secondary branch. A branch, generally having a basal diameter of less than 0.25 x stem diameter

Selective delignification. A kind of wood decay (white-rot) in which lignin is degraded faster than cellulose

Shedding. In woody plants, the normal abscission, rotting off or sloughing of leaves, floral parts, twigs, fine roots and bark scales

Silvicultural thinning. Removal of selected trees to favour the development of retained specimens to achieve a management objective

Simultaneous white-rot. A kind of wood decay in which lignin and cellulose are degraded at about the same rate

Snag. In woody plants, a portion of a cut or broken stem, branch or root which extends beyond any growing-point or dormant bud; a snag usually tends to die back to the nearest growing point

Soft-rot. A kind of wood decay in which a fungus degrades cellulose within the cell walls, without any general degradation of the wall as a whole

Spores. Propagules of fungi and many other life-forms; most spores are microscopic and dispersed in air or water

Shrub species. Woody perennial species forming the lowest level of woody plants in a woodland and not normally considered to be trees

Sporophore. The spore bearing structure of fungi

Sprouts. Adventitious shoot growth erupting from beneath the bark

Stem/s. The main supporting structure/s, from ground level up to the first major division into branches

Stress. In plant physiology, a condition under which one or more physiological functions are not operating within their optimum range, for example due to lack of water, inadequate nutrition or extremes of temperature

Stress. In mechanics, the application of a force to an object

Stringy white-rot. The kind of wood decay produced by selective delignification

Storm. A layer of tissue which supports the fruit bodies of some types of fungi, mainly ascomycetes

Structural roots. Roots, generally having a diameter greater than ten millimetres, and contributing significantly to the structural support and stability of the tree

Subsidence. In relation to soil or structures resting in or on soil, a sinking due to shrinkage when certain types of clay soil dry out, sometimes due to extraction of moisture by tree roots

Subsidence. In relation to branches of trees, a term that can be used to describe a progressive downward bending due to increasing weight

Taper. In stems and branches, the degree of change in girth along a given length

Target canker. A kind of perennial canker, containing concentric rings of dead occluding tissues

Targets. In tree risk assessment (with slight misuse of normal meaning)

persons or property or other things of value which might be harmed by

mechanical failure of the tree or by objects falling from it

Topping. In arboriculture, the removal of the crown of a tree, or of a major proportion of it

Torsional stress. Mechanical stress applied by a twisting force

Translocation. In plant physiology, the movement of water and dissolved materials through the body of the plant

Transpiration. The evaporation of moisture from the surface of a plant,

especially via the stomata of leaves; it exerts a suction which draws water up from the roots and through the intervening xylem cells

Understorey. A layer of vegetation beneath the main canopy of woodland or forest or plants forming this

Understorey tree species. Tree species not having potential to attain a size at which they can contribute to the closed high canopy of a woodland

Vascular wilt. A type of plant disease in which water-conducting cells

become dysfunctional

Vessels. Water-conducting cells in plants, usually wide and long for hydraulic efficiency; generally not present in coniferous trees

Veteran tree. A loosely defined term for an old specimen that is of interest biologically, culturally or aesthetically because of its age, size or condition and which has usually lived longer than the typical upper age range for the species concerned

Vigour. The expression of carbohydrate expenditure to growth (in trees).

Vitality. A measure of physiological condition expressed through the health and growth of foliage, shoots and adaptive woody tissues.

White-rot. A range of kinds of wood decay in which lignin, usually together with cellulose and other wood constituents, is degraded

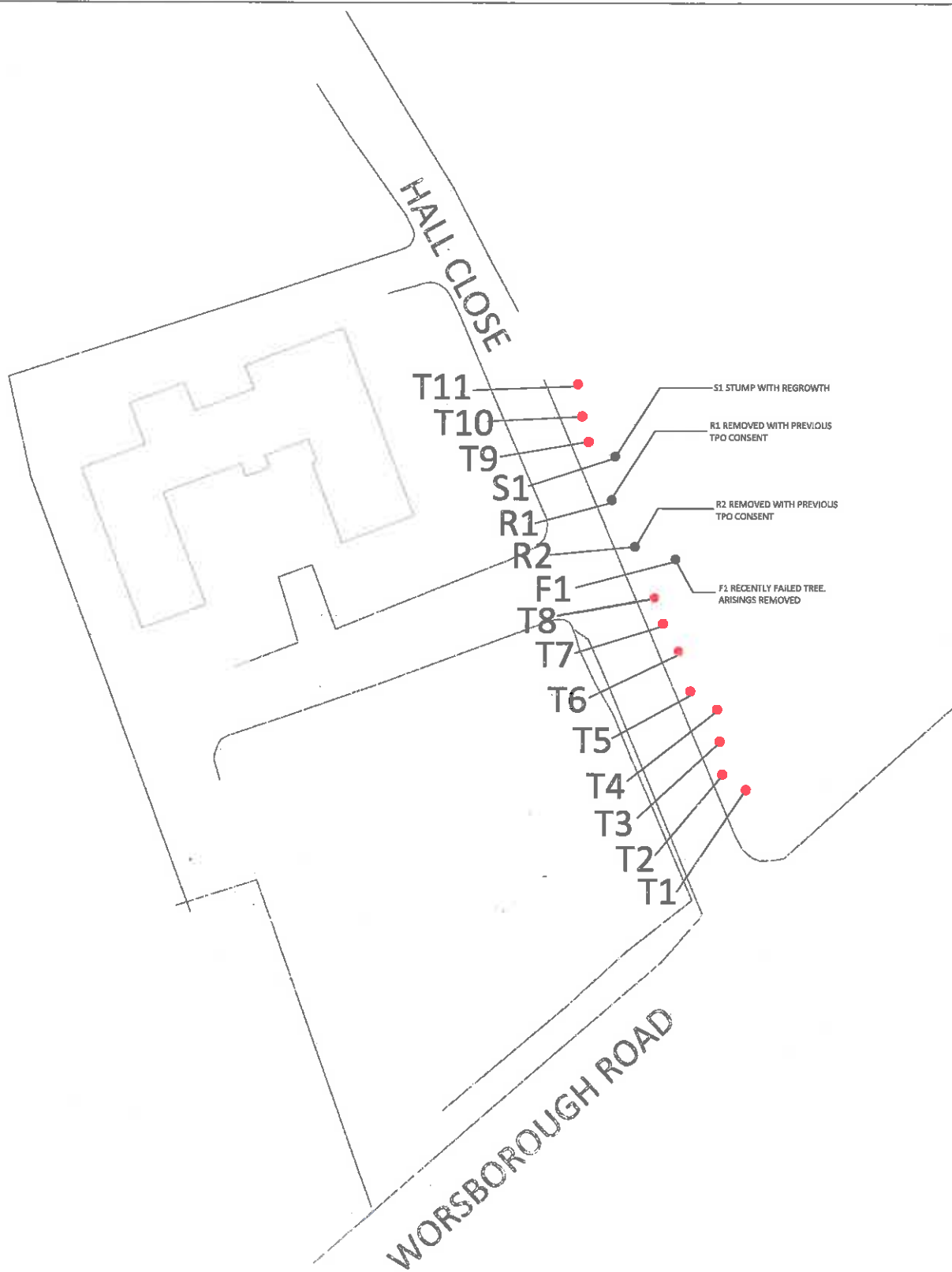
Wind exposure. The degree to which a tree or other object is exposed to wind, both in terms of duration and velocity

Wind pressure. The force exerted by a wind on a particular object

Windthrow. The blowing over of a tree at its roots

Wound dressing. A general term for sealants and other materials used to cover wounds in the hope of protecting them against desiccation and infection; only of proven value against fresh wound parasites

Appendix 4 – Site Plan



APPENDIX 4 PLAN

SYMBOL GUIDE

- CENTRE OF TREE/SHRUB
(RED FOR REMOVAL)

HALL CLOSE, WORSBOROUGH

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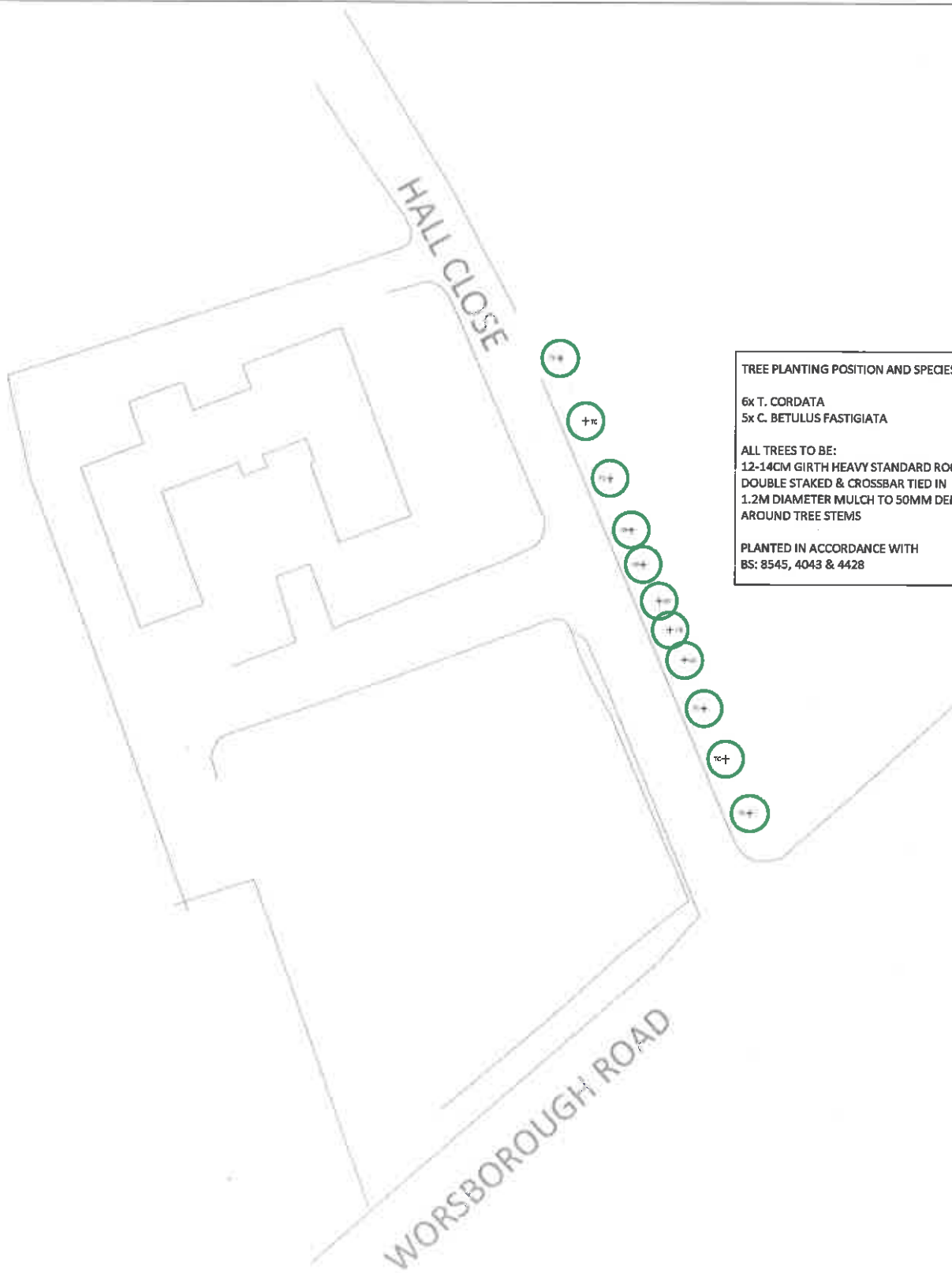
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NOV 2018

Appendix 5 – Proposed Planting



TREE PLANTING POSITION AND SPECIES

6x *T. CORDATA*
5x *C. BETULUS FASTIGIATA*

ALL TREES TO BE:
12-14CM GIRTH HEAVY STANDARD ROOTBALLED
DOUBLE STAKED & CROSSBAR TIED IN
1.2M DIAMETER MULCH TO 50MM DEPTH
AROUND TREE STEMS

PLANTED IN ACCORDANCE WITH
BS: 8545, 4043 & 4428

APPENDIX 5 PLANTING PLAN

SYMBOL GUIDE



CENTRE OF NEW PLANTING

HALL CLOSE, WORSBOROUGH

PROJECT NO:	SCALE: 1:50	
DRAWING NO:	DATE: 15/05/2019	

We trust that this report provides all the necessary information although if further advice is needed please do not hesitate to contact us.

Mark Jennings

15/11/2018

For and on behalf of:

