

WADEY TREES

CHARTERED CONSULTANCY



Arboricultural Risk Assessment and Woodland Management Report

Mill Lane House
Top Road
Slindon
West Sussex
BN18 0RP



Report Ref: WT P12081178 Mill La Ho, Slindon
Report Date: 15 December 2020

Produced by:
Mark Wadey NDArb CUEW MArborA RCarborA MICFor
Arboricultural Consultant



 Institute of
Chartered Foresters
Registered Consultant



Contents

Report objective	3
Summary of work recommendations	3
1. INTRODUCTION	4
2. SITE VISIT AND COLLECTION OF DATA	6
3. REQUIREMENTS FOR ASSESSING AND MANAGING TREE RISK.....	7
4. STRATEGY FOR MANAGING ASH DIEBACK	11
5. CONCLUSIONS	15
6. TREE MANAGEMENT RECOMMENDATIONS	16
7. WOODLAND MANAGEMENT RECOMMENDATIONS.....	23
8. OTHER CONSIDERATIONS	27
Appendix 1 Tree location plan of areas visited - WTP 1	28
Appendix 2 Data collection - Tree schedule with recommended work priority	29



REPORT OBJECTIVE

When a client approaches us, it is an acknowledgement that the trees they own are possibly a hazard, and as such, it is understood they contract us to identify whether they have potential to cause harm to people or property. In conjunction with this fundamental issue, it is also our role to find sustainable long-term management options for the identified trees and the wooded parts of the site.

Summary of work recommendations

All the significant trees we were asked to look at were visited and checked, and the management recommendations are described in the tree schedule. A summary of the trees that require work and the priority that should be given is as follows:

Work priority	Tree numbers
1. Work required as soon as practicably possible	T016, 019, 032, 033, 038, 041, 055
2. Within 6 months	T005, 012, 015, 020, 021, 022, 024, 026, 027, 028, 030, 031, 034, 037, 042, 043, 044, 054, 058, 059
3. Within 18 months	001, 002, 003, 004, 006, 007, 008, 009, 014, 017, 018, 023, 025, 029, 035, 036, 039, 045, 046, 047, 048, 049, 050, 051, 052, 053, 056, 057, 060
4. Advisory (When resources allow)	T010, 011, 013, W040



1. INTRODUCTION

- 1.1 **Instruction:** This is a tree risk assessment report confirming that significant trees close to/or within falling distance of buildings, public footpaths and adjacent roads were visited and visually checked to provide management recommendations. This report has been commissioned by Mr and Mrs Rojas to establish that reasonable and proportionate measures have been taken to manage obvious significant risks of harm from tree failures and to establish long term management options for maintaining and enhancing the woodland setting within the property.
- 1.2 **Scope of this report:** Where a tree is dead, dying or dangerous, the targets for potential harm from its failure must be acknowledged and this is the case irrespective of whether the tree carries statutory protection i.e. a Tree Preservation Order or not. This report only identifies works which are specified based on an inspection frequency of up to 18 months, and an assessment of the following failure factors: tree health, structural defects, history of failure, predisposition of the species to failure, recent changes or disturbance, prevailing ground conditions affecting stability, and exposure to weather.
- 1.3 **References:** In preparing the analysis in this report, the guidance and advice in the following technical references has been considered:
- The HSE Sector Information Minute (SIM) called Management of the risk from falling trees or branches (2013)
 - Balancing tree benefits against tree security; the duty holder's dilemma, published in the Arboricultural Journal: The International Journal of Urban Forestry (Volume 34, Issue 1, 2012)
 - Forestry Commission Practice Guide Hazards from Trees: A General Guide by David Lonsdale (2000)
 - National Tree Safety Group's recent publication on tree risk management called Common sense risk management of trees
 - Tree inspections: a simpler alternative to the present complication and confusion, published in the Arboricultural Association ArbNews (Autumn 2013)
 - The UK Road Liaison Group's Well-managed Highway Infrastructure: A Code of Practice, published in October 2015
 - Department of the Environment Circular 52/75 Inspection of highway trees
 - Arboricultural Association Tree surveys: A guide to good practice by Neville Faye, David Dowson and Rodney Helliwell
 - Arboricultural Association Assessment of tree forks. Junctions in Trees: Assessment of junctions for risk management
 - Arboricultural Association Industry Code of Practice (ICoP) for Arboriculture – Tree Work at height
 - Dunster, Julian A, E: Thomas Smiley, Nelda Matheny, and Sharron Lilly. 2013. Tree Risk Assessment Manual, International Study of Arboriculture.



- 1.4 **Trees that may be protected by statutory law:** Tree Preservation Orders (TPOs) cannot always be reliably interpreted to identify which trees are protected, especially as time passes and site conditions change from when they were originally made. Our experience is that TPO plans are often inaccurate and schedules become out of date as trees die or are removed.

Our visual check and assessment of the trees is for the purposes of risk management and has taken no account of any statutory protection such as Tree Preservation Orders, Conservation Area, and Forestry Act, controls that may exist. These are matters that the duty holder must check before any works are undertaken and take due account of when implementing any recommendations. In this case, I was informed by the client that the site is within the South Downs National Park Authority and protected by either a tree preservation order, or part of a conservation area. Therefore, it will be necessary to consult with the LPA before any works other than certain exemptions can be carried out.

- 1.5 **Qualifications and experience:** This report is based on my site observations and the provided information, interpreted in the context of my experience. I have experience and qualifications in arboriculture, which can be reviewed at:

<https://wadeytrees.co.uk/wp-content/uploads/2020/03/CV-Mark-J-Wadey-2.pdf>



2. SITE VISIT AND COLLECTION OF DATA

- 2.1 **Site visit** During this survey I visited on the 9 December 2020 and walked the accessible areas. All my observations were from ground level with the aid of binoculars to observe the higher parts of the trees. I did not have access to trees within other private properties, and I have confined observations of them to what was visible from within the accessible areas. The weather at the time of the inspection was clear, and still with good visibility through most parts of the day. I took relevant photos during the visits and include these in the separate photographic report provided as WT P12081178 Photo report, dated 15 December 2020.
- 2.2 **Location and general observations on the relevant trees:** I have illustrated the approximate locations of the trees I inspected on the Tree Location plan WTP1 included as Appendix 1. This plan is for illustrative purposes only and no measurements should be taken from it. I numbered and recorded my brief observations, along with work recommendations, detailed in the tree schedule in Appendix 2. These trees were tagged with a unique number and their positions are approximately located on the plan extract in Appendix 1.



3. REQUIREMENTS FOR ASSESSING AND MANAGING TREE RISK

3.1 **Risk assessment:** For the purposes of this report, 'assessment' is a broad term used to describe the process of visiting and visually inspecting a tree. It does not imply that a detailed investigation or anything more than a quick visual check was carried out. Surveying is a Visual Tree Assessment (VTA) that is conducted on foot. All observations were of a preliminary nature and did not involve any climbing or detailed investigation beyond what was visible from accessible points at ground level.

Evaluating trees for risk is always subjective because such assessments rely on visual calculations made by observers. To assess the risk so far as it is reasonable to do so, several factors need to be considered. In this context, the **physiological** and **structural condition** of trees is assessed to evaluate and provide a **risk rating** to each tree in its specific situation. This risk rating takes account of the **occupancy rate**, the **likelihood of failure**, the **likelihood of impact** and the **consequences of failure** (See Appendix 2 for definitions of these terms).

Trees are checked visually by looking all around the tree at the roots, stem and crown looking for any obvious defects or signs of defects. Trees that are in high-risk areas need to be thoroughly surveyed with a good assessment all around especially at the base. If access to the base is not possible then the tree owner will be advised of this problem so the obstruction can be removed, and access can be gained at a later date.

My visual assessment included a review of the crown from a distance, followed by a closer look at the trunk and crown for any obvious signs of significant poor health and structural weakness. I also looked at the base of the trunk, with a focus on discovering obvious signs of structural defects, root decay, or instability. The upper crown was scanned with binoculars or a zoom camera to assist in the identification of potential hazards. If ivy covered, I probed and tapped the wood from ground level to establish if there were any obscured features that were relevant to the assessment. This did not extend to removing all the ivy or probing beyond what could be reached from ground level. Characteristics such as root plate movement, fungal bodies, dead branches, tight branch unions, cracks, splits, twists, ivy, disease, leaf size and so on are all recorded and taken into account during the tree assessment.

3.2 **The extent and timing of remedial works:** In the event that remedial works are necessary, the precise extent and timing is a matter of balancing the objectives of management within the resources available. This is a matter of individual judgment for the duty holder, with no detailed rules to follow. However, if an accident occurs before remedial works are carried out, it is likely that the duty holder will have to explain the reasoning behind the management process, which is a very good reason to have a plan in advance of any problems. To minimise any exposure to criticism, once notified, duty holders should carry out remedial works as soon as possible within the reasonable limitations of their circumstances.



- 3.3 **The importance of habitat:** In many situations, trees form important habitat and their retention, along with dead and dying wood, is an essential component of a healthy ecosystem. For that reason, it is normally reasonable to adopt a presumption to retain dead and dying trees, unless there are valid safety reasons not to do so. Emphasis should be put on retaining the main trunk standing for as long as possible. Of course, there are some circumstances where it is impractical or inappropriate for habitat to take priority and, in such instances, removal may be an appropriate management option
- 3.4 **Dead and declining trees:** In the past, the common reaction to managing dead trees has been to remove them, but that can be extremely damaging to the wider ecosystem. Any management decision should be based on the level of risk, which is primarily driven by the levels of access, the size of the tree parts that could fail and the likelihood of failure, which is often closely related to types of defects and species. In areas of low access, it is likely to be acceptable to leave dead trees until they fall to bits or fall over. Where there are higher levels of access, the likelihood of branches falling off, or the tree falling over will dictate the thrust of management. Substantial reduction of vulnerable branches will often allow the main trunk to be retained until it becomes obviously unstable and must be pulled over or felled. As a rule, it would be prudent to check dead and severely declining trees annually, but significant remedial works would only normally be necessary once obvious risks of failure are identified.
- 3.5 **Dead branches:** It is well documented that species with durable heartwood, i.e. oak and sweet chestnut, are generally much better at retaining dead branches than species without this characteristic, i.e. ash, sycamore and horse chestnut. Oaks rarely drop dead branches, even after many years on the tree, whereas ash will do so within several years of death. Consequently, in areas with significant occupation, it will often be unnecessary to remove dead oak branches, but almost invariably essential to remove dead ash branches that are big enough to cause significant harm.
- 3.6 **Advanced trunk decay:** Obvious and advanced trunk decay should always be carefully assessed. In many instances, trees can counteract its debilitating effects by a combination of increasing the growth of reaction wood close to the affected areas and restricting the spread of decay by the process of compartmentalisation. Where this response is strong and obvious, only a very low level of intervention may be necessary. However, some species are not so effective at preventing the spread of decay and more caution in their management is required. In such instances, remedial pruning may allow retention with an acceptable level of risk, but in extreme cases, removal or pruning back to a main trunk may be the most appropriate option.
- 3.7 **Significant crown or branch imbalance:** Where branches or crowns are unbalanced there may be an increased vulnerability to excessive loading and failure in storm conditions. This risk of failure is significantly increased if the imbalance focuses excessive loading on weaknesses or defects where they grow over high usage areas. Where necessary, shortening the length of branches or lightening their weight through pruning can often minimise the risk of failure.



- 3.8 **Pedestrian rights of way:** Footpaths along highways have different characteristics compared to footpaths through the countryside; pedestrians have no choice on whether or not to use paths along roads, but they do once they step into the countryside where there is less risk from passing vehicles. For this reason, it seems likely that the courts may expect a higher level of vigilance for safety on footpaths associated with highways than with those in the countryside. Although the HSE confines its requirement for a quick visual check to frequently visited zones, this task would not generally be particularly onerous to carry out and duty holders who rely on this defence for not checking trees along countryside footpaths may find themselves vulnerable in the event of harm arising. A quick visual check will always be prudent because it allows any imminent dangers to be identified and dealt with, but that does not automatically imply that all other risks have to be dealt with in the same manner as on a highway footpath. A large land holding could have many miles of countryside footpaths to micro-manage and it could be practically very difficult to implement a high standard of safety management, not to mention the adverse impact on habitat. Again, this matter has not been fully explored by the courts, but duty holders who put signs at the entrance to footpaths across their land warning of the potential for normal countryside hazards are likely to be better placed to refute liability in the event of harm arising.
- 3.9 **Areas with occasional high usage:** Under normal circumstances, trees around fields with no formal access are unlikely to warrant any visual check. However, where these fields are used for one-off events where visitors are invited into them, then a higher level of checking is likely to be required. Obvious examples where caution will be required are dead or dying trees that provide valuable habitat in their countryside setting, but a higher level of risk when the areas beneath them are formally occupied by people such as festivals or countryside fairs/events. Where there is a significant risk of tree failure, it would be prudent to temporarily fence or restrict access by the visitors to any area where debris could cause harm. If this is not feasible, then more extensive remedial works may be necessary.
- 3.10 **Ecology:** The Wildlife and Countryside Act 1981 as amended by the Countryside and Rights of Way Act 2000 provides statutory protection to birds, bats and other species that inhabit trees. We advise that trees can be valuable ecological habitat, but we have no specialist expertise in this discipline and this report does not consider that aspect. Some of the trees identified for intervention works may be habitat protected through the European Protected Species legislation and this should be checked before any works start.
- 3.11 **Ivy covered trunks and branches:** Thick ivy can obscure the condition of the trunk and branches of a tree and prevent defects from being discovered. However, where trees do have thick ivy, it would be impractical in every case to remove it or climb into the crown to have a closer look. Where it is practical to do so, a visual check from ground level will be undertaken to look for obvious visible defects. For trees located within falling distance of a significant target, we may recommend removal of ivy for a further assessment. However, it would be disproportionate to do this on all ivy-covered trees, so we do not recommend removing it unless there are obvious significant outward health problems visible around the



tree or structural defects visible under the ivy. These types of issues may be considered worthy of a closer look.

- 3.12 **Assessment frequency:** Our assessment of the tree for the purposes of assessing its condition and work requirements is made on the basis that it will be re-inspected on an 18-month cycle after the date of this survey to identify any changes in condition, and review the original recommendations. All areas where checks are deemed necessary should be reviewed after extreme and severe storm events, and after any nearby disturbance that could adversely affect tree stability, such as excavation or loss of shelter.
- 3.13 **Broad interpretation of objectives:** The primary management requirement is to establish and maintain acceptable levels of risk, in terms of damage to structures and harm to people, and the tree work recommendations are designed to achieve this. Where appropriate, visual amenity considerations have guided the detailed management recommendations to minimise any adverse impacts on local character.



4. STRATEGY FOR MANAGING ASH DIEBACK

- 4.1 **Background:** First confirmed in Britain in 2012, ash dieback, previously known as 'Chalara', is a disease of ash trees caused by a fungus (*Hymenoscyphus fraxineus*). Ash trees across much of England are now symptomatic of ash dieback, and it is expected that the majority of ash trees will subsequently die from or be significantly affected by the disease in the coming years. Currently there is no known efficient prevention or curative treatment. Visible ash dieback symptoms do vary, but include leaf wilt, leaf loss and crown dieback, and in some instances visible bark lesions in branch or stem tissues which directly contribute to tree decline and death. Growing trees are known to be weakened to the point where they succumb to secondary pests or pathogens, e.g. *Armillaria* fungi (honey fungus). Timescales on speed of decline vary; mortality has been observed in as little as two growing seasons. As an ash tree declines, and where affected by secondary pathogens, it appears to more rapidly lose timber strength and integrity and is prone to structural failure, making the management and felling of infected trees hazardous, and costly. Some ash trees appear to be able to tolerate infection. Therefore, the use of crown reduction or lopping instead of felling, natural regeneration of felled trees and propagation of tolerant trees may lead to more tolerant strains. Tree health scientists are studying the genetic factors which enable this so that tolerant ash trees can also be bred for the future.
- 4.2 **Current advice:** The evidence informing ash dieback policy and the resulting management advice is under constant review; this guidance is likely to change periodically. However, current advice recommends that land managers should already be identifying their ash tree population, assessing ash tree condition, monitoring for any change over time, and be planning mitigation for the expected loss of a large proportion of ash trees. Such works should look to minimise the loss of ash trees as a habitat used by other species and as an important tree in the landscape by, for example, undertaking compensatory tree planting with site appropriate species in advance of the expected loss of ash trees. Land managers need to prepare their resources and manpower to manage any identified risks resulting from changes in ash tree condition. This should include obtaining an approved felling licence for trees on their land so that they can legally fell if they need to. This advice is provided in the knowledge that as the land owner, there is an overarching duty to comply with the law, and you should be acting now in preparation to deal with the likely increased risks from ash dieback on their ash trees. In particular, the focus must be on ash trees growing within 'high risk' locations, like those adjacent to highways, service network infrastructure, buildings, or in areas or routes frequently used by the public.
- 4.3 **Dangerous ash trees:** It is important to note that poor condition of an ash tree canopy might not be a result of ash dieback. Other problems such as drought stress, water logging, root damage, or other pests and diseases can cause ash trees to become stressed and to decline. However, where it is determined that ash dieback is the cause of decline, the structural integrity and inherent strength of an ash tree may be severely affected by the disease and by associated secondary pests or pathogens; these may create high risk felling conditions for any operators working on or adjacent to that tree. Only trained and



experienced tree surgeons or forestry workers should undertake work on ash trees showing obvious ash dieback symptoms or advanced signs of ash dieback.

- 4.4 **Managing individual ash trees on this site:** There are several ash trees growing adjacent to Mill Lane growing on a raised bank close to the road edge which present a moderate risk of harm to the locality. There are also several ash trees within the woodland areas which are distant from public areas, but they are within falling distance of the frequently used garden areas and they are also likely to present a significant future risk to the property if this disease becomes more prevalent. It is advisable to ensure that any diseased ash trees in these high-risk locations, are given priority for works to minimise the risk of harm in the future.
- 4.5 **Assessment of ash trees in high risk public areas:** Locations with statutory access rights, such as roads and public rights of way must be maintained as safe for public use. This may mean liaising with other authorities for temporary closure orders e.g. a road closure. Our assessment of the trees looks to identify ash trees that are located in areas with frequent or significant public use, such as those adjacent to public roads, network infrastructure, buildings, rights of way, permissive access routes etc. The priority is given to those showing evidence of significant tree health risk factors, such as dead limbs, fruiting bodies (especially *Armillaria* fungi or *Inonotus Hispidus* brackets), lesions etc.
- 4.6 **Monitoring the ash dieback:** Ongoing monitoring of ash trees should focus on those trees in high or higher risk locations to ensure that any change in their condition is noted as early as possible. Most importantly, written notes from any monitoring work will provide awareness of the risks and ongoing assessment of them, should a tree failure incident occur which affects someone else. Regular survey work (we'd suggest late July to early August) will help to identify the current condition of the ash tree population and the rate of condition change.

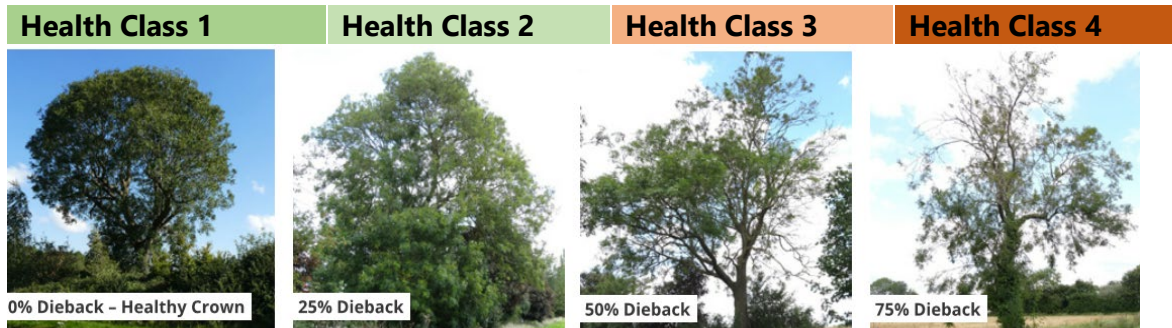
Photographic evidence should be kept to record change in individual tree condition. However, premature conclusions regarding levels of disease tolerance (good or poor) should be avoided as the health of individual trees can vary from year to year and changes resulting from ash dieback are not yet fully understood or realised. Lower risk trees can be managed as part of a normal longer-term approach to tree management. Lower risk trees may also contribute towards longer term habitat mitigation, if you have important or protected species populations to consider, as you may be able to retain them longer and keep them as important tree features in the landscape.

- 4.7 **Action plan for identifying health classes:** The Tree Council have recently published an action plan document which sets out the latest guidance for managing affected trees. As part of this advice, they are now recommending nationally that four Health Classes are used in any future ash tree die back surveys. In this respect, each surveyed ash tree should be assigned to one of the following four Ash Health Classes:

- **Ash Health Class 1** – 100%–75% remaining canopy



- **Ash Health Class 2** – 75%–50% remaining canopy
- **Ash Health Class 3** – 50%–25% remaining canopy
- **Ash Health Class 4** – 25%–0% remaining canopy



By using this four-category framework to assess the percentage of the remaining crown, a tree can be assigned a health category, which informs subsequent potential action.

During the survey, I identified that there were many trees close to public places with varying degrees of visual dieback symptoms. In this respect, their canopies were assessed for obvious symptoms of infection and these were recorded following the guidance and advice set out by the Tree Council's action plan document. Although the trees were out of leaf due to the timing of the survey, they were assessed based on live bud observations, patterns of growth and quantities of dead wood present within the crowns. In this case, there are several trees appearing to have 50-75% live canopy, but many others appear to be more infected with 50% live canopy remaining. There were no trees with less than 25% live growth but based on the rapid spread of the disease around the Country, it is likely that all these trees will be adversely affected within the next 3-5 years.

- 4.8 **Long term management of health classes:** If the identified ash trees are retained, any subsequent surveys should be used to monitor changes between health classes over time. This will allow a greater understanding of the spread and speed of impact of ash dieback. Monitoring over time is also essential as reports show that in some year's trees may recover canopy condition, especially during hot and dry summers when the weather is not ideal for fungal sporulation. However, overall the tree's health will still be declining due to the infection in the wood. So, it is essential that even if recovery is noted, surveying does not stop.
- 4.9 **Mitigation:** Where diseased ash trees are known to contribute to specific eco-system services, for example, as resting, breeding or foraging sites for important species, then mitigation should be planned to secure these features in the long term. This is to ensure compliance with wildlife legislation such as the Wildlife and Countryside Act 1981. Habitat mitigation, to offset any impact or loss as a result of felling trees, could include managing nearby trees or woodland to improve its condition and create good quality habitat for important species. Landscape impact resulting from loss of significant numbers of trees can



be mitigated by advance planting of new trees and woodland using locally appropriate species.

4.10 **General intervention tree work:** Through the assessment and survey process we have identified those ash trees with high or higher risk factors and recommended what work is required on them and when. Notwithstanding assessing any health and safety risks associated with working off the ground in potentially weakened ash trees, tree works include the felling of ash trees within falling distance of significant target areas.

4.11 **Useful contacts and further reading:**

Tree felling– An overview	https://www.gov.uk/guidance/tree-felling-overview
Felling licences	https://www.gov.uk/guidance/tree-felling-licence-whenyou-need-to-apply
Managing ash in woodlands in light of ash dieback: Operations Note 46	https://www.gov.uk/government/publications/managing-ash-in-woodlands-in-light-of-ash-dieback-operationsnote-46
Tree Health Resilience Strategy	https://www.gov.uk/government/publications/tree-health-resilience-strategy-2018
Forest Industry Safety Accord – Felling dead ash	https://www.ukfisa.com/assets/files/alerts/Safety%20Guidance%20Note%20%20Felling%20dead%20ash%20%20April%202018.pdf
National Tree Safety Group – Common sense risk management of trees	http://www.forestry.gov.uk/pdf/FCMS024.pdf/\$FILE/FCMS024.pdf
Tree council	https://www.treecouncil.org.uk/
Natural England	https://www.gov.uk/government/organisations/natural-england
Historic England	https://historicengland.org.uk/
European Protected Species	https://www.gov.uk/guidance/manage-and-protect-woodland-wildlife
Bat Conservation Trust	https://www.bats.org.uk/the-trust/contact-us
Arboricultural Association	https://www.trees.org.uk/
Institute of Chartered Foresters	https://www.charteredforesters.org/



5. CONCLUSIONS

- 5.1 **Overall risk calculations:** My assessment has taken account of the possible targets and their occupancy rates in this instance. I evaluated the likelihood of the tree or part of the tree impacting a target and estimated the likelihood of an event occurring and its consequence. All these factors provided me with the overall risk rating for each relevant tree which has been summarised in the tree schedule of Appendix 2. A priority for works was given to each situation which can be identified on the plan WTP1, the tree schedule in Appendix 2, and the summary table on page 3.

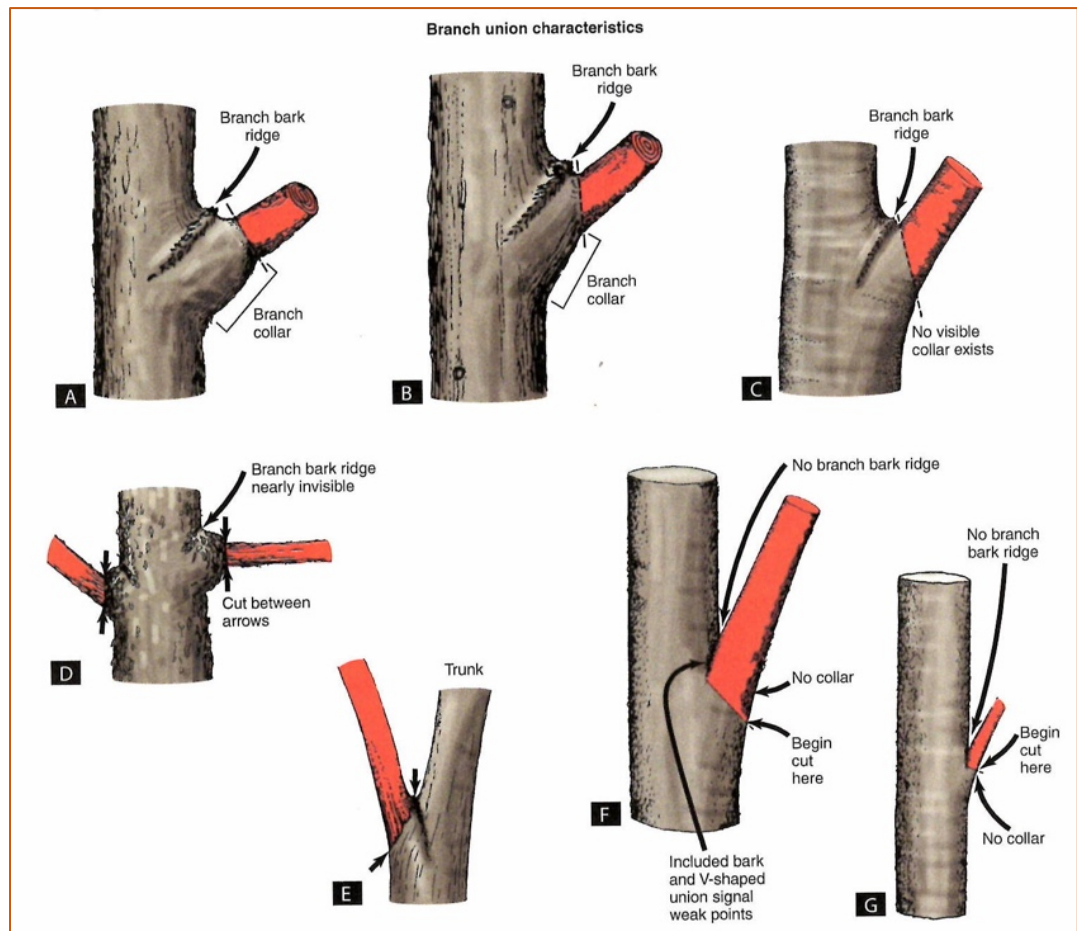


6. TREE MANAGEMENT RECOMMENDATIONS

- 6.1 **Appropriate management principles:** In order to prepare management recommendations, it is useful to identify appropriate objectives, with a priority assigned to each. From my knowledge of the site and its proposed use, I believe the following objectives of management, in order of priority are appropriate:
- 6.1.1 Establish and maintain acceptable levels of risk to people and structures.
 - 6.1.2 Conserve and enhance the existing visual character of the area.
 - 6.1.3 Make provision for wildlife, where it does not conflict with the objectives above.
- 6.2 **Tree work recommendations and prioritisation:** The trees were visually assessed from ground level as far as access allowed. No climbing inspections or invasive examination techniques were carried out. Access to some trees may have been restricted, in such cases the descriptions of the trees given in the survey schedule are subject to the tree being free of significant defects that were not clearly visible. The tree work recommendations have been formulated by considering all the relevant objectives in the context of the surroundings of each tree. Immediate works to establish acceptable levels of risk to people and structures have been categorised as **Priority 1**, and need doing as soon as practically possible. All other works should be done within the recommended timescales for risk reasons, and have been separated into three other categories; ordered as priorities **2**, **3**, or **4**. The columns and abbreviations used for the survey can be found in the explanatory notes at Appendix 2.
- 6.3 **Advisory works:** These are identified for good management reasons to sustain the tree canopy cover around the site, which could include issues such as selective tree management where it may improve the growing conditions of better trees, or replacement trees where new opportunities arise. These are the lowest priority and should only be implemented if the management budget allows.
- 6.4 **Further clarification for carrying out the tree works:** In most instances, the work requirements are complex and a highly experienced contractor will need to be selected to implement them as specified. I draw attention to this because the contractors must be fully advised of the detail required in carrying out these operations so that they can quote on the same basis. Any contractor instructed to undertake the recommended works should be fully compliant with, and follow the current Industry Code of Practice (ICoP) – Tree work at height guidance <https://www.trees.org.uk/News-Blog/Latest-News/Updated-Industry-Code-of-Practice-for-Arboricultur>. Specific tree management related points they should be aware of on this site are as follows:
- 6.4.1 **Pruning cuts:** Branch unions differ from tree to tree depending on growth characteristics and species type, so skilled operators should take this into account when making their final pruning cuts. The pruning cuts must be in accordance with the general recommendations set out in *British Standards 3998: 2010 Tree Work Recommendations* (BS 3998). The diagram below represents typical types of final branch collar and ridge pruning cuts that will be made during the pruning



operations to ensure trees are placed under the minimal amount of stress necessary.



When removing a live branch at its point of origin on the trunk or from a parent branch, the final pruning cut shall be made in branch tissue just outside the branch bark ridge and collar. No stubs should be left.

- 6.4.2 **Tools and equipment:** Where trees are to be retained, climbing spikes must not be used during the climbing operations, except where it is absolutely necessary to perform an aerial rescue of an injured worker. For most light pruning operations, pruning saws (such as a silky curved saw) and hand pruners (secateurs or loppers) is the preferred method to ensure that only small diameter cuts are being made. Larger cuts may require the use of small chainsaws, but this should only be allowed with authorisation from the supervising manager to ensure it is the most practical and safest method of operation.



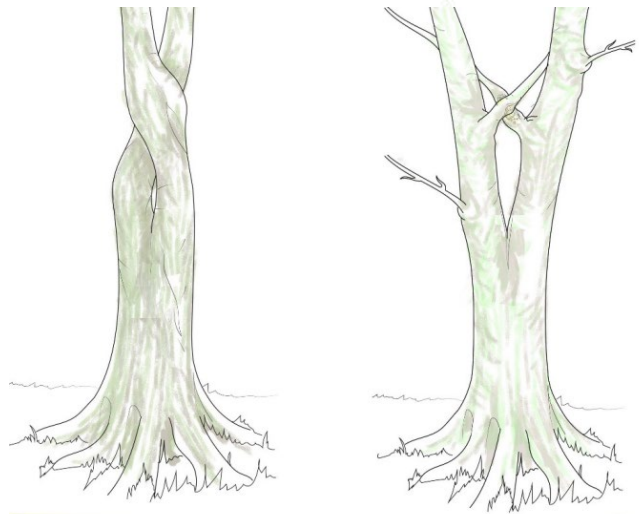
- 6.4.3 **Avoiding the transmission of pests and diseases:** Extreme caution should be exercised to prevent the introduction of pests and pathogens that have been



previously used on other tree work operations. Measures should be taken to avoid transmission of pests and pathogens from tree to tree, and from site to site by sterilising all equipment before use.


6.4.4 **Habitat and wildlife considerations:** Prior to work commencing, the trees and their surroundings will be assessed for the presence of protected species, some of which are subject to season-specific legislation. Any works will be planned so as to limit their potential adverse impact on wildlife generally. The timing of works will take account of the seasonal cycles of the species of fauna and flora concerned (including the nesting habits of birds and the egg-laying habits of insects).

6.4.5 **Natural bracing:** A 'natural brace' can be formed in the crown of a tree where additional loading on a stem or junction is occurring. Where advice is given to manage branches and stems forming these natural braces, caution needs to be taken on selective removal where they may be starting to fuse together and forming a natural brace to a weak point



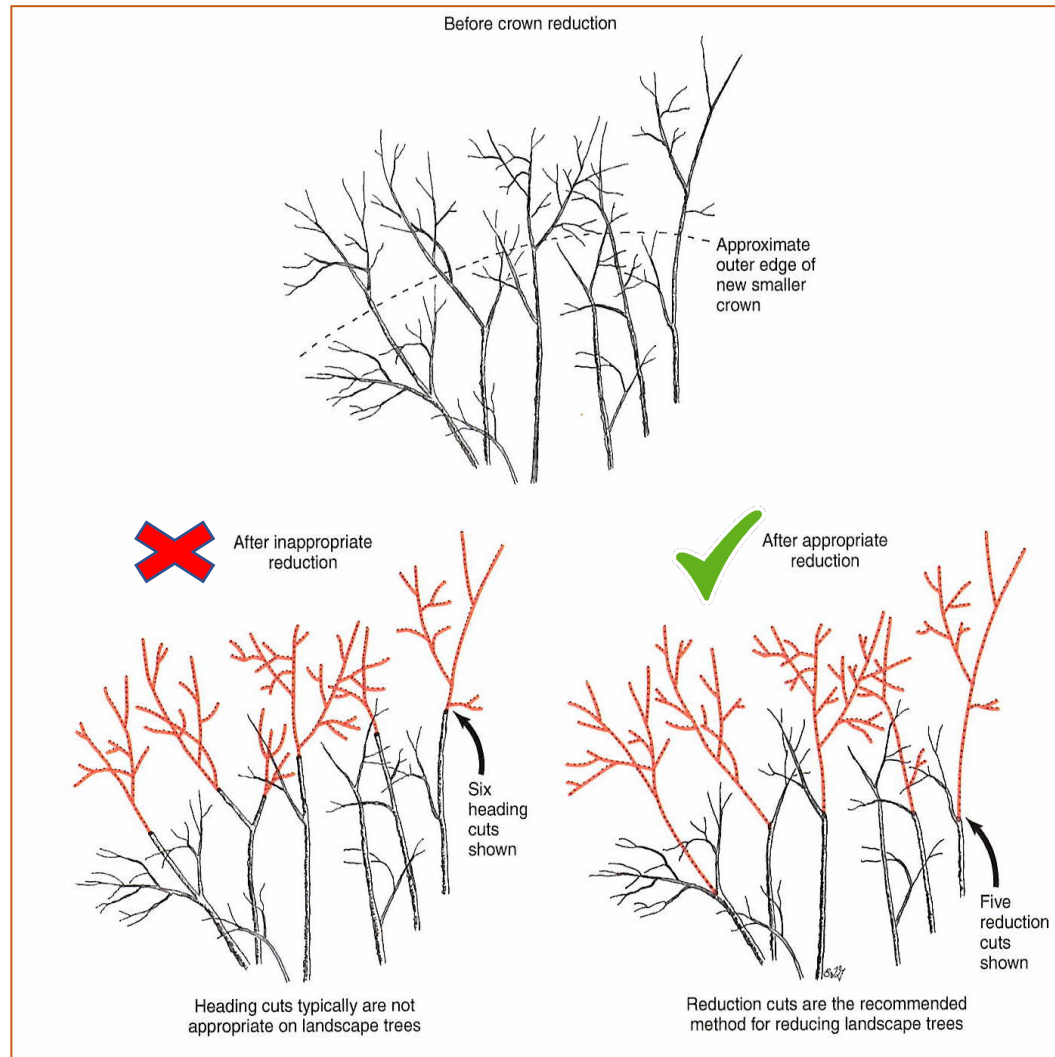
in the tree. If a lateral branch bridges across a junction to rub against the adjacent stem, and it is clear the stems are forming a significant abrasion wound with no obvious signs of fusion, it is likely that one or both stems may need to be removed to minimise risk of failure where it could result in harm or damage. On many tree species, such as beech and maple, it is normal to see internally growing branches/stems entwining between/around other stems to support potentially weak fork junctions or defects. It is important that these are retained where it is believed the tree is naturally supporting its own parts. Additionally, where it is believed that mechanical stimulus is required to aid normal development of a junction, careful consideration should be given to the removal and retention of crossing branches. These are management decisions that should be undertaken by a competent supervising foreman or arboricultural consultant.



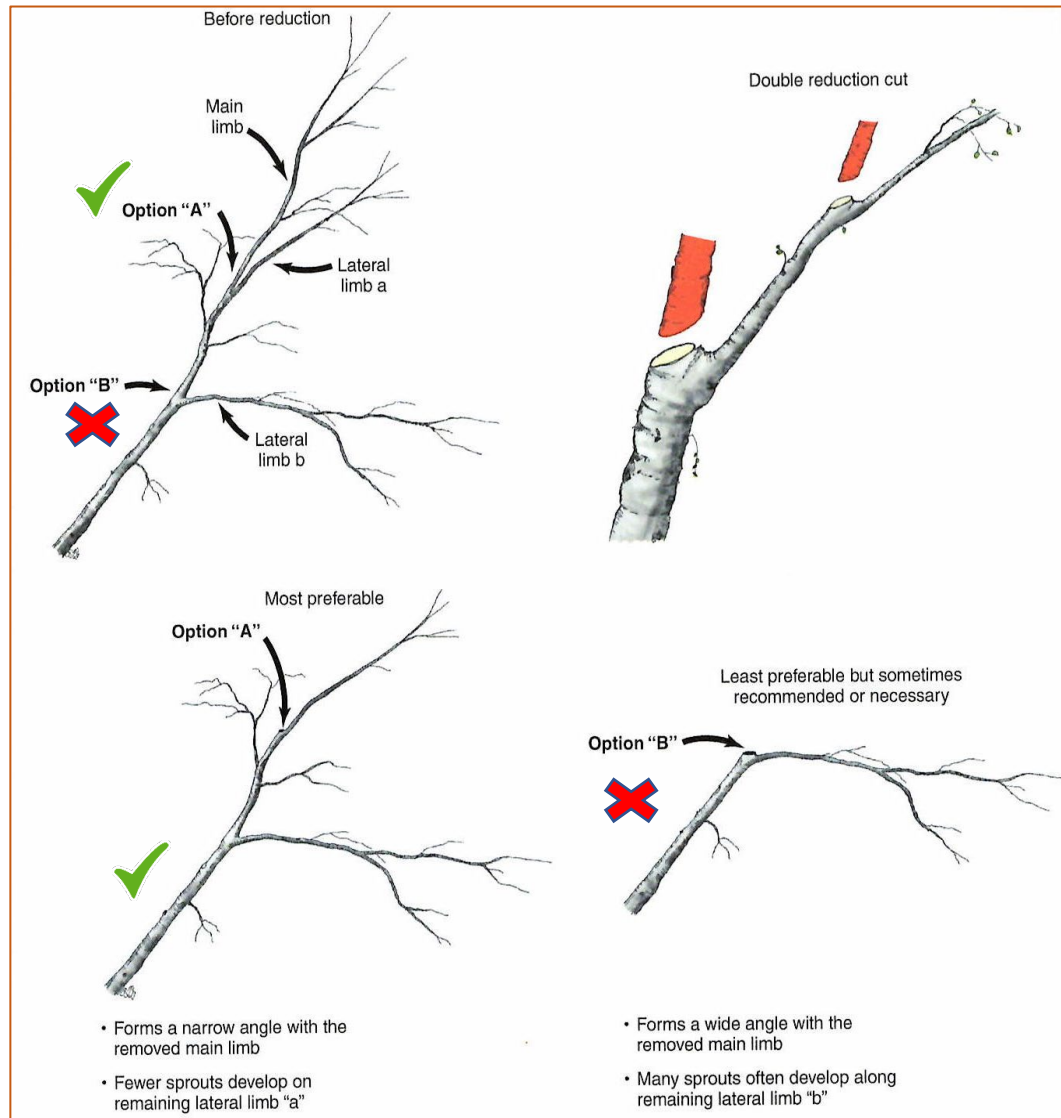
- 6.4.6 **Crown reductions:** The reduction in height and/or spread of the crown (the foliage bearing portions) of a tree. Crown reduction may be used to reduce mechanical stress on individual branches or the whole tree, make the tree more suited to its immediate environment or to reduce the effects of shading and light loss, etc. The final result should retain the main framework of the crown, and so a significant proportion of the leaf bearing structure, and leave a similar, although smaller outline, and not necessarily achieve symmetry for its own sake. Crown reduction cuts should be as small as possible and in general not exceed 100mm diameter unless there is an overriding need to do so. Reductions should be specified by actual measurements, where possible, and reflect the finished result, but may also refer to lengths of parts to be removed to aid clarity, e.g. 'crown reduce in height by 2.0m and lateral spread by 1.0m, all round, to finished crown dimensions of 18m in height by 11m in spread (all measurements approximate.)'. Not all species are suitable for this treatment and crown reduction should not be confused with 'topping', an indiscriminate and harmful treatment.
- 
- 6.4.7 **Cuts suitable for a crown reduction:** The most suitable cut to minimise stress to a tree is a 'reduction cut' which reduces the length of a stem or branch by removing the terminal portion back to a living lateral branch of equal or smaller diameter (Diagram below). In the best cases scenario, the lateral branch to be retained should be no less than one-third the diameter of the cut stem. This will be the most frequently used technique to retain good tree architecture and reduce the need for creating large wounds.



- 6.4.8 **Reducing the branch extremities:** Reducing the branch extremities by removing stems and branches back to live lateral branches that are at least one-third the diameter of the removed stem (bottom right on diagram below). Making flat cuts to reduce trees is classed as topping and is not recommended (bottom left on diagram below)

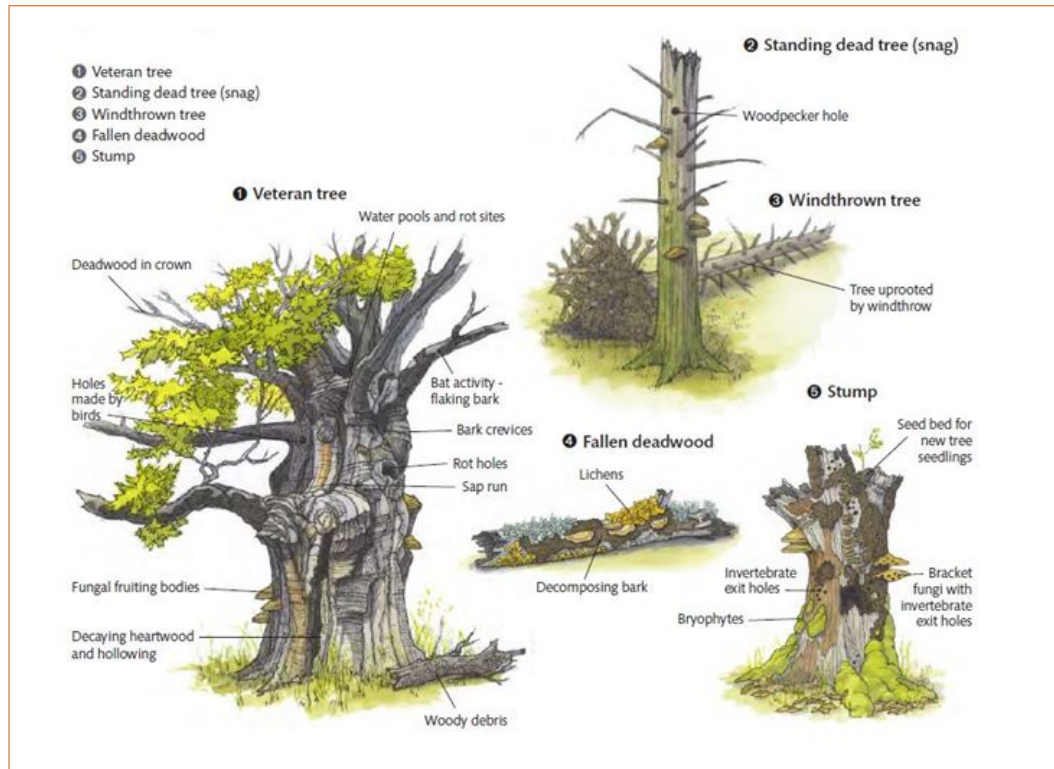


- 6.4.9 **Reduction options:** Shortening a main limb or stem back to a lateral branch with a narrow angle (lateral limb "a"-option "A") is better than shortening back to a branch with a wider angle (lateral limb "b"-option "B"). It is reported that lateral branches forming a wider angle of attachment may be more likely to break out from the tree later than those with a narrower angle. If the retained lateral branch is too long, it may be necessary to make a double reduction cut (diagram below).



6.4.10 **Deadwood:** Non-living branches or stems due to natural ageing or external influences. Deadwood provides essential habitats and its management should aim to leave as much as possible, shortening or removing only those that pose a risk. Durability and retention of deadwood will vary by tree species.





- 6.4.11 **Timing of operations:** Wherever feasible, pruning should be avoided at times when the disease- and decay-resistance of the tree is likely to be impaired by physiological stress induced by previous tree work, construction damage, or seasonal or weather-related factors, e.g. during or soon after a drought or when starch reserves have been depleted by spring flushing and flowering. This is set out in more detail within para 5.2 of British Standards 3998: 2010 Tree Work Recommendations (BS 3998).
- 6.4.12 **The effects of pruning operations:** Poor timing and excessive pruning can lead to reduced photosynthesis and lost energy reserves (carbohydrates) from cut branches and trees can become stressed or made more susceptible to micro-organisms. Therefore, understanding the seasonal changes in trees (Phenology, or the timing of natural processes such as flowering or bud-burst), is vitally important when we make decisions on when and how much to prune a tree. In principle, most trees have their highest energy periods around June/ July, and so this is usually a good time to prune. As a tree comes out of dormancy it requires lots of energy to grow in March, April and May time, so it is usually best to avoid pruning stressed trees during this period. Also, as the trees head back into dormancy, they require vital carbohydrates to form new wood and store energy. This is a time when they may be vulnerable to fungal pathogens, so again, pruning to stressed trees should be avoided in September/October time.



7. WOODLAND MANAGEMENT RECOMMENDATIONS

7.1 Broad objectives of management

- 7.1.1 **Priorities:** From my knowledge of the site, I have established that appropriate broad objectives of management in order of priority are as follows:
- a. Establish and maintain acceptable levels of risk in areas where there is high access to the owners and the surrounding public roads.
 - b. Conserve and enhance the future native wooded character of the area.
 - c. Make provision for wildlife where it does not conflict with the two objectives above.
- 7.1.2 **Safety:** From the management objectives, establishing an acceptable level of risk is the first priority. This needs to be addressed in the context of the woodland setting; dangerous and dying trees should be either removed or the risk reduced by pruning but this should not extend to removing every dead branch within areas that can be fenced off or where there is only a low level of risk. In these low-risk areas, stumps should be left standing and fallen branches left on the ground to help maintain deadwood habits. Where there is a high usage, the areas will have to be maintained by removing deadwood, stumps and fallen debris.
- 7.1.3 **Sustaining the tree cover:** Sustaining the long-term tree cover is also an important objective. An important element of this is to improve uneven age class structure throughout the area. This will ensure that there is a succession of trees over time to minimise the disruption of cover over the whole site as individual trees need to be removed. This can be achieved by a combination of encouraging existing natural regeneration, supplementary planting and managing the existing established trees. There is limited natural regeneration within the woodland and selective planting of 1.5–1.75m feathered trees on a relatively wide spacing where appropriate would help to encourage age class diversity and variety of species. Additionally, thinning to some of the denser areas of laurel and poorer quality sycamore, elm and ash will improve the future quality of individual trees, particularly in the area defined as W040. An important objective of short-term management should be to maximise the opportunities to conserve the wooded aspect of the site.
- 7.1.4 **Conservation of wildlife:** This site is likely to have some wildlife habitat because of the decayed trees and pockets of undergrowth. Deadwood both on the trees and on the ground drives this diversity and is an essential feature of a wildlife friendly environment. Any management approach based on sanitation and tidiness will destroy this element, so it is essential to retain as much deadwood and as many dead or dying trees as possible. This can create a direct conflict with the safety requirements associated with high levels of use, but compromises are often



possible. Inevitably, this objective cannot be met in the well-used areas and woodland edges, but there is scope to retain and enhance habitat diversity in the areas more distant from those of high usage, particularly within the area defined as W040. The most obvious mechanism for doing this is to leave stumps from removed trees cut to 3–5m height. This will serve the dual benefit of a varied habitat until the new planting establishes. These stumps should be retained for as long as possible through regular pruning of the re-growth to maintain acceptable levels of risk.

- 7.1.5 **Plan period, supervision and revision:** It is considered that an appropriate period for this plan is five years. At the end of each year, the success of the work should be evaluated and, if appropriate, minor changes considered. At the end of year 5, progress should be reviewed in the context of the original objectives and any other significant considerations that materialise during the plan period. Based on this assessment, detailed plans for a further five years work should be agreed and implemented in the same way. This process of evaluation and adjustment should be repeated at the end of every five-year plan period. An important principle throughout the course of management should be a flexible approach to react to the successes or failures of the plan strategies in a way that best meets the main plan objectives. All appraisals must be carried out by a suitably qualified professional.

7.2 **Proposals and implementation**

- 7.2.1 **General overview:** It is proposed that work needs to be carried out over five years. The early works (identified in Appendix 2) should be primarily directed towards establishing an acceptable level of safety. Later management should be intended to thin out existing trees to favour the best individuals and to increase the number of trees on the site. Encouraging the development of natural regeneration will be the primary means of increasing tree numbers and this will be supplemented by limited planting. The ultimate objective is to provide continuous and sustainable wooded cover on the site that will positively and permanently contribute to, and enhance, local visual amenity.
- 7.2.2 **Existing woodland/site species make-up:** This plan is primarily concerned with establishing management principles to appropriate areas within the private garden setting. The precise detail of the works and boundaries will be dictated by conditions on the ground and will need to be finalised through a close liaison between the owners, the tree contractor, and the local planning authority (LPA). The main wooded area is located at the very rear of the site (W040) which is predominantly sycamore, maple, ash, laurel, pine, holm oak, elm and lime. There are also invasive sycamore and small pockets of ash, elm and maple in the two central parts of the rear garden (illustrated on WTP1), but these have limited understorey with many damaged and poorly developed trees making up the majority of the tree canopy in these areas. The mature limes should be favoured



where safety is not a concern and the better-established sycamore, maple, pine and holm oak need to be retained to maintain the structural integrity of the mature woodland setting. Some elms could be retained for understorey, but it is unlikely these trees will become mature. Selective thinning of the invasive trees will provide planting and regeneration opportunities. Trees to be removed as a thinning exercise should be marked and agreed by the LPA before any work commences. The majority of ash trees within the site are showing early signs of ash dieback and their management has been discussed in section 4 of this report. It will be important to consider and incorporate this specific tree management when moving forward with the overall woodland and tree planting strategy.

- 7.2.3 **Selection of natural regeneration:** Selection of natural regeneration is helpful where there are many closely spaced stems above 2m in height. This selection should favour the best formed individuals that have a realistic chance of maturing into useful replacements for the existing established trees. For the smaller saplings up to 4m in height, a spacing of about 2m should be the objective. Where there are larger trees a wider spacing may be appropriate, but this will need to be determined by the operatives on the ground. Vigorous individuals free of defects with single leaders should be favoured and all other stems within 2m should be cut to ground level.
- 7.2.4 **Thinning of maturing trees:** This selection process relates to the upper storey trees and should favour the best formed individuals that have a realistic chance of maturing into useful trees. Closely spaced tall thin trees with obvious defects should be removed to leave the best trees on an initial spacing of 3–4m. On this site, there is a large proportion of self-seeded sycamore that should be removed to improve the safety around the site and provide space for existing or new planting. In addition to providing the upper storey trees with more space to develop, this selection should also aim to allow sufficient space for the lower storey trees to develop.
- 7.2.5 **Disposal of debris:** This is a private garden with a woodland setting, so it will not be appropriate to leave brushwood in heaps in areas of high use. It may be possible to leave small heaps of brushwood in W040 where there is likely to be less usage and new trees will be encouraged to grow. Larger branch wood and trunks could also be left in these areas provided they do not constitute a safety hazard. In some instances, it may be appropriate to leave larger trunks standing to heights of 3–5m. All of these options will have positive wildlife benefits.
- 7.2.6 **Brief planting specification:** An illustrative specification for new planting to supplement the natural regeneration is included below. This may need to be modified depending on plant availability and the conditions that prevail at the time of planting.



7.2.7 **Site preparation:** Any surviving ground vegetation within 1m of proposed planting areas should be manually cleared before planting to achieve a weed free surface for the new trees. Where planting is taking place within the rooting area of existing trees, no disturbance outside the planting pit should occur.

7.2.8 **Tree selection and planting:** The following table provides a suggested planting species mix for the chosen woodland areas:

Species	Size	Spacing
20% oak 20% scots pine and or larch 10% lime 30% field maple and yew 20% native woody shrubs	1.5–1.75m feathered or nearest available size	Minimum spacing 2m x 2m. No trees to be planted within 3m of existing well-established trees or selected natural regeneration.

7.2.9 **Planting pits:** All planting pits should be excavated to dimensions of no more than 300mm x 300mm x 300mm.

7.2.10 **Protection:** Spiral tree guards should protect all newly planted trees.

7.2.11 **Mulching:** All planting areas should be covered with a 50mm depth of woodchip mulch.

7.2.12 **Maintenance:** Future maintenance should keep the planting area weed free on an annual basis until successful establishment. All failures should be replaced, and the woodchip mulch topped up as appropriate. Tree guards should be removed when the trees have successfully established and there is no longer a risk of damage.



8. OTHER CONSIDERATIONS

- 8.1 **Trees subject to statutory controls:** The site is protected by a tree preservation order and part of it is located in a conservation area, so it will be necessary to consult the LPA before any pruning works other than certain exemptions can be carried out. The works specified above are necessary for reasonable management and should be acceptable to the LPA. However, they may take an alternative point of view and have the option to refuse consent.
- 8.2 **Trees outside the property:** Tree 004 is the neighbour's tree, and trees 042, 043 and 044 are located outside the fence line along the roadside, so they may be in the control of the owner of Mill Lane House. It will not be possible to carry out the recommended works without the full co-operation of each tree owner. The implications of non-co-operation require legal interpretation and are beyond the scope of this report. By common law, branches from trees on adjacent properties extending over boundaries can be pruned back to the boundary line without the permission of the owners. However, the material belongs to each owner and the same guidance on statutory controls applies as discussed in section 5.1.
- 8.3 **Implementation of works:** All tree works should be carried out to BS 3998 *Recommendations for Tree Work* as modified by more recent research. It is advisable to select a contractor from the local authority list and preferably one approved by the Arboricultural Association. Their Register of Contractors is available free from The Malthouse, Stroud Green, Standish, Stonehouse, Gloucestershire GL10 3DL; phone 01242 522152; website www.trees.org.uk.
- 8.4 **Reporting work during operations:** The inspection of all these trees has been from ground level, so only obvious visible defects will have been identified. Any defects discovered by the climbers during the process of carrying out the work recommendations that may affect the structural integrity of the tree should be reported to the supervising officer. Modification to the schedule of works may be required as a result of these reports.

Mark Wadey NDARB CUEW MArborA RCarborA MICFor
Arboricultural Consultant



 Institute of
Chartered Foresters
Registered Consultant

Appendices:

1. Location plan showing order of works priority WTP1
2. Data Collection



Appendix 1 **Tree location plan of areas visited - WTP 1**
 Illustrating tree works categorised in order of priority





Appendix 2 **Data collection - Tree schedule with recommended work priority**

Tree No.	Species	Description	Life Stage	Survey Notes	Physiological Condition	Structural Condition	Risk Rating	Likelihood of Failure	Likelihood of Impact	Failure x Impact	Consequences	Recommendations	Priority
T001	Elm (Ulmus sp.)	Target # - access track and garden	Dead	Restrictions to access: Dense ivy present. Small dead tree	Dead	Poor	Low	Possible	Medium	Unlikely	Significant	Fell tree to ground level.	18 months
T002	Sycamore (Acer pseudoplatanus)	Target # - sheds, harden and fruit cage	Mature	Restrictions to access: Dense ivy present. Deadwood > 30mm diameter overhanging the target area	Good	Good	Low	Improbable	High	Unlikely	Significant	Remove deadwood - greater than 30mm in diameter over the target area Strip ivy from trunk.	18 months
T003	Sycamore (Acer pseudoplatanus)	Target # - sheds, garden and fruit cage	Mature	Deadwood > 30mm diameter overhanging the target area Small trunk wound at 0.5m with internal dysfunctional wood visible. There does not appear to be any extensive decaying wood at this point and the surrounding wound is good quality, indicating that the tree is adapting well to the defect at this point.	Good	Good	Low	Improbable	High	Unlikely	Significant	Remove deadwood - greater than 30mm in diameter over the target area Strip ivy from trunk.	18 months
T004	Maple (Acer sp.)	Woodland tree. Target # - garden play area	Over Mature	Deadwood > 30mm diameter overhanging the target area	Good	Good	Low	Improbable	Medium	Unlikely	Significant	Remove deadwood - greater than 30mm in diameter over the target area	18 months
T005	Maple (Acer sp.)	Target # - garden area	Dead	Old dead tree with large stem overhanging the target area	Dead	Poor	Moderate	Probable	Medium	Somewhat likely	Significant	Remove approximately top 4m of tree to leave a habitat stump of about 4m	6 Months
T006	Sycamore (Acer pseudoplatanus)	Target # - garden area	Semi Mature	Poorly developed tree with multiple stem wounds, probably caused by squirrels. It is unlikely to have good future potential.	Fair	Poor	Low	Possible	Medium	Unlikely	Significant	Fell tree to ground level and replace with suitable tree species.	18 months
T007	Sycamore (Acer pseudoplatanus)	Target # - garden area	Semi Mature	Poorly developed tree with multiple stem wounds, probably caused by squirrels. It is unlikely to have good future potential.	Fair	Poor	Low	Possible	Medium	Unlikely	Significant	Fell tree to ground level and replace with suitable tree species.	18 months
T008	Sycamore (Acer pseudoplatanus)	Target # - garden area	Semi Mature	Poorly developed tree with multiple stem wounds, probably caused by squirrels. It is unlikely to have good future potential.	Fair	Poor	Low	Possible	Medium	Unlikely	Significant	Fell tree to ground level and replace with suitable tree species.	18 months
T009	Sycamore (Acer pseudoplatanus)	Target # - garden area	Semi Mature	Poorly developed tree with multiple stem wounds, probably caused by squirrels. It is unlikely to have good future potential.	Fair	Poor	Low	Possible	Medium	Unlikely	Significant	Fell tree to ground level and replace with suitable tree species.	18 months
T010	Sycamore (Acer pseudoplatanus)	Target # - garden area	Semi Mature	Poorly developed tree, with low future potential.	Fair	Poor	Low	Improbable	Medium	Unlikely	Significant	Fell tree to ground level and replace with suitable tree species.	Advisory
T011	Sycamore (Acer pseudoplatanus)	Target # - woodland area	Semi Mature	Poorly developed tree, with low future potential.	Fair	Poor	Low	Improbable	Medium	Unlikely	Significant	Fell tree to ground level and replace with suitable tree species.	Advisory



Tree No.	Species	Description	Life Stage	Survey Notes	Physiological Condition	Structural Condition	Risk Rating	Likelihood of Failure	Likelihood of Impact	Failure x Impact	Consequences	Recommendations	Priority
T012	Common Ash (Fraxinus excelsior)	Target # - Woodland and garden area	Mature	Significant cavity at 8m with internal dysfunctional wood visible. There does not appear to be any extensive decaying wood at this point and the surrounding wound is good quality, indicating that the tree is adapting well to the defect at this point. Ash dieback symptoms visible throughout the crown. Ash Health Class 2 – 75%–50% remaining canopy.	Fair	Fair	Moderate	Possible	High	Somewhat likely	Significant	Fell tree to ground level and chemically treat stump to prevent regrowth	6 Months
T013	Sycamore (Acer pseudoplatanus)	Target # - garden area	Semi Mature	Poorly developed tree with trunk defect at 2m. It has low future potential.	Fair	Poor	Low	Improbable	Medium	Unlikely	Significant	Fell tree to ground level and replace with suitable tree species.	Advisory
T014	Maple (Acer sp.)	Target # - Woodland and garden area	Mature	Deadwood > 30mm diameter overhanging the target area Rubbing branches with no signs of fusion Crossing branches with signs of stem fusion Significant damage at base with some inverted wood visible. There does not appear to be any extensive decaying wood at this point and the surrounding wound is good quality, indicating that the tree is adapting well to the defect at this point.	Good	Fair	Low	Improbable	Medium	Unlikely	Significant	Remove deadwood - greater than 30mm in diameter over the target area Remove crossing branches over the target area that are not fusing together. These should be no greater than 40mm in diameter	18 months
T015	Laurel (Laurus sp.)	Target # - woodland and garden area	Mature	There is significant buttress and trunk decay visible and investigations with a nylon hammer and probe reveal that the internal decay is extensive. Loose soil and signs of root plate lifting. Some adaptive root growth visible	Fair	Poor	Moderate	Probable	Medium	Somewhat likely	Significant	Fell tree to ground level.	6 Months
T016	Beech (Fagus sp.)	Woodland tree. Target # - woodland and access track	Mature	Windblown tree being supported by surrounding vegetation and an old dead trunk.	Poor	Poor	High	Probable	High	Likely	Significant	Fell tree back to windblown rootplate	ASAP
T017	Ash (Fraxinus sp.)	Target # - woodland and edge of garden area	Mature	Ash dieback symptoms visible throughout the crown. Ash Health Class 2 – 75%–50% remaining canopy	Fair	Fair	Low	Possible	Medium	Unlikely	Significant	Fell tree to ground level and chemically treat stump to prevent regrowth	18 months



Tree No.	Species	Description	Life Stage	Survey Notes	Physiological Condition	Structural Condition	Risk Rating	Likelihood of Failure	Likelihood of Impact	Failure x Impact	Consequences	Recommendations	Priority
T018	Ash (Fraxinus sp.)	Target # - woodland and edge of garden area	Mature	Ash dieback symptoms visible throughout the crown. Ash Health Class 2 – 75%–50% remaining canopy. Significant cavity at 3m with internal dysfunctional wood visible. There does not appear to be any extensive decaying wood at this point and the surrounding wound is good quality, indicating that the tree is adapting well to the defect at this point.	Fair	Fair	Low	Possible	Medium	Unlikely	Significant	Fell tree to ground level and chemically treat stump to prevent regrowth	18 months
T019	Common Ash (Fraxinus excelsior)	Woodland tree. Target # - woodland and garden area	Mature	Ash dieback symptoms visible throughout the crown. Ash Health Class 3 – 50%–25% remaining canopy Deadwood > 30mm diameter overhanging the target area Previous branch failures evident. Over-extended branches above the target area.	Poor	Fair	Moderate	Possible	High	Somewhat likely	Significant	Fell tree to ground level and chemically treat stump to prevent regrowth	ASAP
T020	Lime (Tilia sp.)	Woodland tree. Target # - woodland	Mature	Windblown tree. One half has collapsed, being supported by adjacent vegetation. The remaining stem has a large defective wound with significant decay present.	Fair	Poor	Moderate	Possible	High	Somewhat likely	Significant	Fell tree to leave a habitat stump of 5m	6 Months
T021	Lime (Tilia sp.)	Woodland tree. Target # - woodland	Mature	Part windblown tree, the root plate appears to be lifting but the tree is probably being supported by large collapsed limb from T020 which has wedged between one of its upright stems. Once the collapsed stem has been removed, this is likely to make this tree more unstable. All the weight and branch structure is over the nearby access track. Significant crown and/or tip die-back	Good	Poor	Moderate	Possible	High	Somewhat likely	Significant	Fell tree to leave a habitat stump of 5m	6 Months
T022	Lime (Tilia sp.)	Woodland tree. Target # - woodland and access track	Mature	Windblown tree being supported by surrounding vegetation and an old windblown dead trunk.	Poor	Poor	Moderate	Possible	High	Somewhat likely	Significant	Remove tree back to leave a habitat stump of 5m where regrowth is forming.	6 Months



Tree No.	Species	Description	Life Stage	Survey Notes	Physiological Condition	Structural Condition	Risk Rating	Likelihood of Failure	Likelihood of Impact	Failure x Impact	Consequences	Recommendations	Priority
T023	Norway Maple (Acer platanoides)	Target # - woodland and garden area	Mature	Deadwood > 25mm diameter overhanging the target area Previous branch failures evident. Broken/Hangers over the target area. Rubbing branches with no signs of fusion Crossing branches with some signs of stem fusion	Fair	Poor	Low	Possible	Medium	Unlikely	Significant	Fell tree to leave a habitat stump of 5m	18 months
T024	Pine (Pinus sp.)	Woodland tree. Target # - woodland and access track	Dead	Windblown tree being supported by surrounding vegetation.	Poor	Poor	Low	Possible	Medium	Unlikely	Significant	Fell tree to ground level.	6 Months
T025	Maple (Acer sp.)	Woodland tree. Target # - woodland	Early Mature	Windblown tree with loose soil and signs of root plate lifting.	Good	Poor	Low	Possible	Medium	Unlikely	Significant	Fell tree to ground level.	18 months
T026	Pine (Pinus sp.)	Woodland tree. Target # - woodland and access track	Dead	Dead tree with decay at base	Dead	Poor	Moderate	Probable	Medium	Somewhat likely	Significant	Fell tree to leave a habitat stump of 4m.	6 Months
T027	Pine (Pinus sp.)	Woodland tree. Target # - woodland and access track	Dead	Dead tree with decay at base	Dead	Poor	Moderate	Probable	Medium	Somewhat likely	Significant	Fell tree to leave a habitat stump of 4m.	6 Months
T028	Pine (Pinus sp.)	Woodland tree. Target # - woodland and access track	Dead	Dead tree with decay at base	Dead	Poor	Moderate	Probable	Medium	Somewhat likely	Significant	Fell tree to leave a habitat stump of 4m.	6 Months
T029	Common Ash (Fraxinus excelsior)	Woodland tree. Target # - woodland and garden edge	Early Mature	Ash dieback symptoms visible throughout the crown. Ash Health Class 3 – 50%–25% remaining canopy	Fair	Fair	Low	Possible	Medium	Unlikely	Significant	Fell tree to ground level and chemically treat stump to prevent regrowth	18 months



Tree No.	Species	Description	Life Stage	Survey Notes	Physiological Condition	Structural Condition	Risk Rating	Likelihood of Failure	Likelihood of Impact	Failure x Impact	Consequences	Recommendations	Priority
T030	Walnut (Juglans sp.)	Woodland tree. Target # - woodland	Early Mature	Windblown tree with loose soil and signs of root plate lifting.	Fair	Poor	Low	Possible	Medium	Unlikely	Significant	Fell tree to ground level.	6 Months
T031	Pine (Pinus sp.)	Woodland tree. Target # - woodland, access track.	Dead	Dead tree with decay at base. Fallen into adjacent vegetation.	Dead	Poor	Moderate	Probable	Medium	Somewhat likely	Significant	Fell tree to ground level.	6 Months
T032	Pine (Pinus sp.)	Woodland tree. Target # - woodland, access track and road.	Dead	Dead tree with decay at base	Dead	Poor	Moderate	Probable	Medium	Somewhat likely	Significant	Fell tree to leave a habitat stump of 4m.	ASAP
T033	Lime (Tilia sp.)	Woodland tree. Target # - woodland, access track and road.	Dead	Dead tree with decay at base	Dead	Poor	High	Probable	High	Likely	Significant	Fell tree to leave a habitat stump of 4m.	ASAP
T034	Lime (Tilia sp.)	Woodland tree. Target # - car park. Target # - road.	Mature	Restrictions to access: Dense ivy present. Old stem failures at 3m with some fork inclusions and stem cavity evident. Not possible to easily see top of defects from ground level.	Good	Fair	Moderate	Possible	High	Somewhat likely	Significant	Strip ivy from trunk and scaffold stems Further investigation of fork junctions at 3m and branch unions where there have been previous failures. If there are concerns of further weakness and potential for future failures, some crown management may need to be considered.	6 Months
T035	Lime (Tilia sp.)	Woodland tree. Target # - car park. Target # - road.	Mature	Restrictions to access: Dense ivy present.	Good	Fair	Low	Improbable	High	Unlikely	Significant	Strip ivy from trunk and scaffold stems	18 months
T036	Lime (Tilia sp.)	Woodland tree. Target # - car park. Target # - road.	Mature	Restrictions to access: Dense ivy present.	Good	Fair	Low	Improbable	High	Unlikely	Significant	Strip ivy from trunk and scaffold stems	18 months



Tree No.	Species	Description	Life Stage	Survey Notes	Physiological Condition	Structural Condition	Risk Rating	Likelihood of Failure	Likelihood of Impact	Failure x Impact	Consequences	Recommendations	Priority
T037	Lime (Tilia sp.)	Woodland tree. Target # - woodland and road	Early Mature	Windblown tree with loose soil and signs of root plate lifting.	Good	Poor	Moderate	Possible	High	Somewhat likely	Significant	Fell tree to leave a habitat stump of 5m	6 Months
T038	Lime (Tilia sp.)	Woodland tree. Target # - woodland and road	Early Mature	Windblown tree with significant signs of root plate lifting.	Good	Poor	High	Probable	High	Likely	Significant	Fell tree to leave a habitat stump of 3m	ASAP
T039	Ash (Fraxinus sp.)	Woodland tree. Target # - woodland and garden area	Mature	Ash dieback symptoms visible throughout the crown. Ash Health Class 3 – 50%–25% remaining canopy Roots growing over brick structure.	Poor	Fair	Low	Possible	Medium	Unlikely	Minor	Fell tree to ground level and chemically treat stump to prevent regrowth	18 months
T041	Eucalyptus (Eucalyptus sp.)	Roadside tree. Roadside tree near house no. Target # - road.	Early Mature	Grows next to tall retaining boundary wall (3m) with very little space for future root and trunk development. There is severe structural damage to the wall which is partly leaning towards the road. As the tree continues to increase in size, it is possible that there will be a total collapse of the wall at this point. If this were to happen, it is entirely feasible that the tree and the root plate could fail as well, causing the tree to fall onto the road and possibly the adjacent house. In this situation, the tree has outgrown its location and become unsustainable and unsafe. It should be removed ASAP and replaced with a suitable tree in a more appropriate location.	Good	Fair	High	Probable	High	Likely	Severe	Fell tree to ground level and chemically treat stump to prevent regrowth	ASAP
T042	Common Ash (Fraxinus excelsior)	Roadside tree. Target # - road.	Mature	Restrictions to access: Dense ivy present. Ash dieback symptoms visible throughout the crown. Ash Health Class 3 – 50%–25% remaining canopy Deadwood > 30mm diameter overhanging the target area	Poor	Fair	Moderate	Possible	High	Somewhat likely	Significant	Fell tree to ground level and chemically treat stump to prevent regrowth	6 Months



Tree No.	Species	Description	Life Stage	Survey Notes	Physiological Condition	Structural Condition	Risk Rating	Likelihood of Failure	Likelihood of Impact	Failure x Impact	Consequences	Recommendations	Priority
T043	Common Ash (Fraxinus excelsior)	Roadside tree. Target # - road.	Mature	Restrictions to access: Dense ivy present. Ash dieback symptoms visible throughout the crown. Ash Health Class 2 – 75%–50% remaining canopy. Previous branch failures evident.	Poor	Fair	Moderate	Possible	High	Somewhat likely	Significant	Fell tree to ground level and chemically treat stump to prevent regrowth	6 Months
T044	Common Ash (Fraxinus excelsior)	Roadside tree. Target # - road.	Mature	Restrictions to access: Ivy present. Ash dieback symptoms visible throughout the crown. Ash Health Class 2 – 75%–50% remaining canopy. Previous branch failures evident. large dead stem in centre of crown. Previous branch failures evident and damaged limbs. Small cavity/nest holes present.	Poor	Fair	Moderate	Possible	High	Somewhat likely	Significant	Fell tree to ground level and chemically treat stump to prevent regrowth	6 Months
T045	Field Maple (Acer campestre)	Target # - garden area	Semi Mature	Poorly developed tree with multiple stem wounds, probably caused by squirrels. It is unlikely to have good future potential	Fair	Poor	Low	Possible	Medium	Unlikely	Significant	Fell tree to ground level and replace with suitable tree species.	18 months
T046	Ash (Fraxinus sp.)	Target # - woodland and edge of garden area	Mature	Ash dieback symptoms visible throughout the crown. Ash Health Class 3 – 50%–25% remaining canopy	Fair	Fair	Low	Possible	Medium	Unlikely	Significant	Fell tree to ground level and chemically treat stump to prevent regrowth	18 months
T047	Ash (Fraxinus sp.)	Target # - woodland and edge of garden area	Mature	Ash dieback symptoms visible throughout the crown. Ash Health Class 3 – 50%–25% remaining canopy Significant damage at 2m with some dysfunctional wood visible. There does not appear to be any extensive decaying wood at this point and the surrounding wound is good quality, indicating that the tree is adapting well to the defect at this point.	Fair	Fair	Low	Possible	Medium	Unlikely	Significant	Fell tree to ground level and chemically treat stump to prevent regrowth	18 months
T048	Ash (Fraxinus sp.)	Target # - woodland and edge of garden area	Mature	Ash dieback symptoms visible throughout the crown. Ash Health Class 3 – 50%–25% canopy remaining.	Fair	Fair	Low	Possible	Medium	Unlikely	Significant	Fell tree to ground level and chemically treat stump to prevent regrowth	18 months



Tree No.	Species	Description	Life Stage	Survey Notes	Physiological Condition	Structural Condition	Risk Rating	Likelihood of Failure	Likelihood of Impact	Failure x Impact	Consequences	Recommendations	Priority
T049	Ash (Fraxinus sp.)	Target # - woodland and edge of garden area	Mature	Ash dieback symptoms visible throughout the crown. Ash Health Class 3 – 50%–25% remaining canopy Old stem tear at 2m with some dysfunctional wood visible. There does not appear to be any extensive decaying wood at this point and the surrounding wound is good quality, indicating that the tree is adapting well to the defect at this point.	Fair	Fair	Low	Possible	Medium	Unlikely	Significant	Fell tree to ground level and chemically treat stump to prevent regrowth	18 months
T050	Sycamore (Acer pseudoplatanus)	Woodland tree. Target # - woodland and garden area	Mature	Deadwood > 30mm diameter overhanging the target area Previous branch failures evident. Broken/Hangers over the target area. Crossing branches with signs of stem fusion	Good	Fair	Low	Improbable	Medium	Unlikely	Significant	Remove deadwood/hangers - greater than 30mm in diameter over the target area.	18 months
T051	Ash (Fraxinus sp.)	Target # - woodland and edge of garden area	Mature	Ash dieback symptoms visible throughout the crown. Ash Health Class 3 – 50%–25% canopy remaining. Severe trunk and stem wounds from fire damage	Fair	Fair	Moderate	Possible	High	Somewhat likely	Significant	Fell tree to ground level and chemically treat stump to prevent regrowth	18 months
T052	Ash (Fraxinus sp.)	Target # - woodland and edge of garden area	Mature	Ash dieback symptoms visible throughout the crown. Ash Health Class 3 – 50%–25% canopy remaining. Severe trunk and stem wounds from fire damage	Fair	Fair	Moderate	Possible	High	Somewhat likely	Significant	Fell tree to ground level and chemically treat stump to prevent regrowth	18 months
T053	Common Ash (Fraxinus excelsior)	Woodland tree. Target # - woodland and edge of garden area	Mature	Ash dieback symptoms visible throughout the crown. Ash Health Class 3 – 50%–25% remaining canopy	Fair	Fair	Low	Possible	Medium	Unlikely	Significant	Fell tree to ground level and chemically treat stump to prevent regrowth	18 months
T054	Holm Oak (Quercus ilex)	Woodland tree. Target # - woodland and edge of garden area	Mature	Significant trunk union defect - cracked junction which has a natural brace starting to form at 3m but fusion has not occurred yet. Cut/Damaged roots, (1m) from trunk.	Good	Fair	Moderate	Possible	High	Somewhat likely	Significant	Reduce height by selectively reducing secondary and tertiary branches by up to 2-3m. The retained crown should be approximately 8m in height (see photo)	6 Months



Tree No.	Species	Description	Life Stage	Survey Notes	Physiological Condition	Structural Condition	Risk Rating	Likelihood of Failure	Likelihood of Impact	Failure x Impact	Consequences	Recommendations	Priority
T055	Spruce (Picea sp.)	Target # - timber building Target # - footpath.	Early Mature	There is significant buttress and trunk decay visible and investigations with a nylon hammer and probe reveal that the internal decay is extensive. Leans over the footpath.	Poor	Poor	High	Probable	High	Likely	Significant	Fell tree to ground level.	ASAP
T056	Maple (Acer sp.)	Target # - garden area	Semi Mature	Poorly developed tree with severe squirrel damage and multiple stem defects. Some fire damage on one side. It is unlikely to have good future potential.	Fair	Poor	Low	Possible	Medium	Unlikely	Significant	Fell tree to ground level and replace with suitable tree species.	18 months
T057	Maple (Acer sp.)	Target # - garden area	Semi Mature	Poorly developed tree with severe squirrel damage and multiple stem defects. Some fire damage on one side. It is unlikely to have good future potential.	Fair	Poor	Low	Possible	Medium	Unlikely	Significant	Fell tree to ground level and replace with suitable tree species.	18 months
T058	Maple (Acer sp.)	Target # - timber building Target # - footpath.	Mature	There is significant buttress and trunk decay visible and investigations with a nylon hammer and probe reveal that the internal decay is extensive. The tree has a one-sided crown with most of the weight over the target areas. With the recommended removal of other surrounding trees, it would become more exposed and vulnerable to extreme wind forces.	Good	Fair	Moderate	Possible	High	Somewhat likely	Significant	Fell tree to ground level.	6 Months
T059	Sycamore (Acer pseudoplatanus)	Target # - dwelling. Target # - road.	Early Mature	Previous branch failures evident with a large broken hanger over the target area. The remaining stem is beginning to fuse with adjacent stem but has split just above this point leaving a weaker stem over the garden area.	Good	Fair	Moderate	Possible	High	Somewhat likely	Significant	Remove hanger and cut damaged stem just below the failure point to retain fusing union point.	6 Months
T060	Larch (Larix sp.)	Target # - garden area		Deadwood > 30mm diameter overhanging the target area	Good	Good	Low	Improbable	High	Unlikely	Significant	Remove deadwood - greater than 30mm in diameter over the target area	18 months



Tree No.	Species	Description	Life Stage	Survey Notes	Physiological Condition	Structural Condition	Risk Rating	Likelihood of Failure	Likelihood of Impact	Failure x Impact	Consequences	Recommendations	Priority
W040	Maple (Acer sp.) Laurel (Laurus sp.) Pine (Pinus sp.) Elm (Ulmus sp.) Sycamore (Acer pseudoplatanus) Ash (Fraxinus sp.) Holm Oak (Quercus ilex)	Target # - woodland, access track, road and garden areas	Semi Mature	Mix of understory laurel and small trees competing for space.	Good	Fair	Low	Improbable	Medium	Unlikely	Minor	Clear laurel and young poorly developed trees to provide access and space for better trees and new planting/woodland glade areas.	Advisory



Data Collection - Explanatory notes

Species: Species identification is based on visual observations. Where there is some doubt over tree identity, sp is noted after the genus name in the botanical names section to indicate that the species cannot be reliably identified at the time of the survey. Where there is more than one species in a group, only the most frequent are noted and not all the species present may be listed. The tree botanical names surveyed on this site are listed below:

The site data columns and abbreviations: The relevant tree data was collected and recorded as described in the table below:

Tree no	Identification number given to the tree	
Species	Tree species identification. Where a tree is unidentifiable, the tree is listed with sp after the genus name	
Height	The tree height is estimated in meters	
Trunk diameter	Trunk diameter is measured or estimated at approximately 1.5m from ground level	
Life stage	There are seven age classes representing the passage through normal life stages NP=Newly planted, Y=Young, SM=semi-mature, EM=Early mature, M=Mature, OM=Over mature, V=Veteran	
Tree condition	The tree condition is represented by the surveyor's initial visual observations of its health and/or structural integrity. These are separated into the following subcategories:	
	Physiological condition (P)	Description
	Good	Appears to be healthy and have good vitality.
	Fair	Generally, in good health but with visible signs of decline or reduced vitality.
	Poor	Obviously in poor health and significant decline.
	Dead	Dead, or very little live growth.
	Structural condition (S)	Description
	Good	No significant structural defects.
	Fair	Some visible defects but no significant hazards.
Poor	Significant defects or dangerous/potentially dangerous condition.	
Risk assessment matrix: The following relevant factors are assessed to provide a formula matrix that calculates the risk rating for each tree		



Occupancy Rate	Constant	A target is present at nearly all times, 24 hours a day, 7 days a week.
	Frequent	The target zone is occupied for a large portion of the day or week.
	Occasional	The target zone is occupied by people or targets infrequently or irregularly.
	Rare	The target zone is not commonly used by people.
Likelihood of Failure	Imminent	Failure has started or is most likely to occur in the near future, even if there is no significant wind or increased load. This is infrequent occurrence for a risk assessor to encounter and may require immediate action to protect people from harm.
	Probable	Failure may be expected under normal weather conditions within the specified time frame.
	Possible	Failure could occur but is unlikely during normal weather conditions within the specified timeframe.
	Improbable	The tree or branch is not likely to fail during normal weather conditions and may or may not fail in severe weather conditions within the specified timeframe.
Likelihood of Impact	High	The failed tree or part will most likely impact the target.
	Medium	The failed tree or part is as likely to impact the target as not.
	Low	It is not likely that the failed tree or part will impact the target.
	Very low	The likelihood of the failed tree or part impacting the specified target is remote.
Consequence of failure	Severe	Severe consequences are those that could involve serious personal injury or death, damage to high value property, or disruption of important activities.
	Significant	Significant consequences are those that involve property damage of moderate to high value, considerable disruption, or personal injury.
	Minor	Minor consequences are those that involve low to moderate property damage, small disruption to traffic or a communication utility, or very minor injury.
	Negligible	Negligible consequences are those that involve low value property damage or disruption that can be replaced or repaired; they do not involve injury.



Risk rating	From whole tree failure, or defective tree parts where they are likely to affect frequented/occupied areas.	
	Extreme	The extreme category applies in situations on which failure is <i>imminent</i> with a <i>high</i> likelihood of impacting the target, and the consequences of failure are <i>severe</i> . The tree risk assessor should recommend mitigation measures to be taken as soon as possible.
	High	High risk situations are those for which consequences are <i>significant</i> and the likelihood is <i>very likely</i> or <i>likely</i> , or consequences are <i>severe</i> , and the likelihood is <i>likely</i> . This combination likelihood and consequences indicates that the tree risk assessor should recommend that action should be taken.
	Moderate	Moderate risk situations are those for which consequences are <i>minor</i> and likelihood is <i>very likely</i> or <i>likely</i> , or likelihood is somewhat <i>likely</i> , and consequences are <i>significant</i> or <i>severe</i> .
	Low	The low risk category applies when the consequences are <i>negligible</i> , when likelihood is <i>unlikely</i> , or consequences are <i>minor</i> , and likelihood is <i>somewhat likely</i> . Mitigation measures may be appropriate for some trees but the priority for action is low. Mitigation may reduce risk or future risk, but the rating is already at its lowest level.
Recommended priority timeframe	A timeframe is specified for determining the length of time required to manage and reduce an associated risk to be as low as reasonably possible (ALARP) <ol style="list-style-type: none"> 1. Work required as soon as practicably possible 2. Within 6 months 3. Within 18 months 4. Advisory (When resources allow) 	
Relevant survey notes	Survey notes relating to relevant tree issues identified on site that cannot be easily incorporated into the tree data collected in the previous columns	
Recommendations	These should identify opportunities for any remedial works or changes to a target area that might reduce risk to levels to be ALARP	



Plum Tree Cottage, 50 Durweston, Dorset, DT11 0QA
Tel: 01258 330100 / 07544 375950 email: mark@wadeytrees.co.uk www.wadeytrees.co.uk
Wadey Trees is a Private Limited Company registered and incorporated in England and Wales
Registered Company No. 12436017