Arboricultural Report

Tree Condition Assessment

Thicket Walk Open Space
Thornbury

19th December 2022

Compiled for:

Jon Brain

On behalf of

Thornbury Town Council

By

Phil Dye
BSc (hons) Arb, Cert Arb L4 (ABC), BA (Hons), MArborA

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NOTE

1:0 INTRODUCTION

I am a consulting arboriculturist with Wotton Tree Consultancy Ltd. I have a BSc (hons) Arboriculture and the AA Technicians Certificate in Arboriculture (Cert Arb L4 (ABC)). I am a LANTRA qualified Professional Tree Inspector. I am a licensed user of Quantified Tree Risk Assessment (QTRA) - license no. 2278, a professional member of the Arboricultural Association and a professional member of the Consulting Arborists Society. I am trained in valuing amenity trees using the Capital Asset Value for Amenity Trees (CAVAT) system. I have been a consulting arboriculturist since 2006.

2:0 SCOPE

I have been instructed by Jon Brain of Thornbury Town Council to undertake a health and safety survey of the trees within the curtilage of Thicket Walk Open Space. The risk of harm has been calculated using Quantified Tree Risk Assessment (QTRA). Remedial tree works have been recommended only where appropriate to reduce risk of harm to an acceptable level in line with HSE's *Tolerability of Risk Framework* (HSE 2001).

3:0 REPORT LIMITATIONS

i. This report is an evaluation of the condition of the trees at the time of inspection. Due to the changing nature of trees and other site circumstances, predictions of their future condition can only be made using the visible signs present at the time of inspection.

ii. Under certain conditions, roots can affect foundations, drains and other underground services. These issues have not been addressed in this report.

iii. Trees are dynamic structures that can never be guaranteed 100% safe. Even those in good condition can suffer occasional damage under only average weather conditions. For this reason the contents of this report is valid for 12 months from the date of inspection.

iv. The inspection was carried out from ground level only. There was no aerial inspection.

v. No samples were taken away from site for analysis elsewhere.

vi. Any alterations of or deletions from this report will invalidate it.

vii. No responsibility is assumed by Wotton Tree Consultancy for legal matters that may arise from this report, and the consultant will not be required to give testimony or attend court unless subsequent contractual arrangements are made.

viii. Any subsequent works undertaken to the surveyed tree as a result of this report is the responsibility of the land managers.

ix. I have not contacted the Local Planning Authority to determine whether any Tree Preservation Order (TPO) covers any of the trees, nor to determine if the site is in a Conservation Area. Before undertaking any work to any of the trees, it would be advisable to check whether either of these planning controls are in operation; if they are, it would be necessary to obtain consent (or in the case of a Conservation area give six weeks notice of intent) before undertaking any such work.

4:0 SITE VISIT AND OBSERVATIONS

4.1 Site visit

The survey was carried out on 13th December 2022. All observations were from ground level. A nylon headed mallet was used to sound out decay in the trunks of the trees. A Tru-Pulse 360 laser rangefinder was used to accurately measure the height of the trees.

5:0 EXPLANATORY NOTES

5.1 Method

All trees have been systematically inspected using Visual Tree Assessment (VTA). Where necessary, a nylon headed mallet has been utilised to sound out decay.
Any tree works highlighted in the table and on the accompanied plans require works to abate any health and safety issues in the following 18 months.

5.2 Table fields

5.2.1 Tree number

Each of these trees has been allotted a number so that the location on the plan and works recommendations on the table can be cross-referenced.

5.2.2 Species

The common name is recorded. Where the species is uncertain, only the genus is stated followed by the letters spp (species).

5.2.3 Age class

This has been recorded as:

y = Young
sm = Semi mature
em = Early mature
m = Mature
om = Over mature
v = Veteran

These are all relative to the life span of the species.

5.2.4 Diameter at 1.5m

Measured in mm, this is the diameter of the main stem taken at a height of 1.5m from ground level. These have been banded into the following groups:

<75, 75-150, 150-250, 250-350, 350-500, 500-750, 750-1m, 1m+

5.2.5 Ht range (m)

Height of tree measured in metres from the base to the highest part of vegetative growth. These are banded into 5 groups:

0-5, 6-10, 11-15, 16-20 and 20+

5.2.6 Crown clearance

The distance from the ground to the lowest bough or canopy part.

5.2.7 Physiological condition

The condition of the trees' health, looking in particular at vitality and the presence of disease. These are categorised as follows:

Poor = in decline/dying and/or significant faults
Fair = some minor faults but good vitality.
Good = No apparent faults, high vitality, significant life expectancy

5.2.8 Structural condition

The condition of the trees stem and branch structure, looking in particular at branch unions, crossing branches and crown formation. These are categorised as follows:

Poor = structurally compromised showing significant defects beyond remedy
Fair = some minor defects which can be remedied through tree works.
Good = No significant defects.

5.2.9 Works recommendations

See section 5.3 below.

5.2.10 Comments

Observations about the tree or its environment where they are deemed noteworthy.

5.2.11 Safe useful life expectancy

An estimation in years of the remaining contribution the tree can offer, depending on its condition, age, location and size.

5.2.15 Priority

To facilitate the management of tree works a priority is given to each recommendation depending upon its urgency.

Priority 1 = Urgent – mitigate the identified problem as soon as possible

Priority 2 = High risk - mitigate the identified problem as soon as the work schedule allows

Priority 3 = Moderate risk - Retain and monitor the tree and / or mitigate the identified problem as necessary

Priority 4 = Low priority - retain and monitor the tree. Mitigate the identified problem if desired.

5.3 Recommended works

The tree works recommended in this report are solely to abate any health and safety issues in the following 18 months. In some cases, advice has been given on general future tree management in the comments section. These have not been assigned a priority as they are not considered health and safety issues at the time of this survey

5.3.1 Remove limb/tidy stubs

Limb removal entails the pruning of the limb back to its parent stem with the final cut being natural target pruning to ensure the branch collar and branch bark ridge remain intact. This provides the tree with the best chance to defend itself against future decay.

6:0 TREE SURVEY DATA

The following trees were inspected for structural integrity and health and saftey. Management recommendations were prescribed only where health and safety concerns arose. It is recommended that the tree works are carried out within the following 18 months. A priority has been assigned where works are recommended to help gauge the urgency of the works (see 5.2.15).

REMOVED	= Tree has been removed since the last survey

Tree No	Species	Age class	Diameter range at 1.5m (mm)	Height range (m)	Crown Clearance (m)	Physiological condition	Good	Comments	Works recommendations	Safe Useful Life Expectancy (SULE) years	Priority
T1	Sycamore	Mature	500-750	10-15m	3	Fair	Good	-	-	20-40	-
T2	Lawsons cypress	Semi-mature	75-150	5-10m	3	Fair	Fair	REMOVED	-	0	-
T3	Lawsons cypress	Semi-mature	75-150	5-10m	3	Fair	Fair	REMOVED	-	0	-
T4	Norway maple	Semi-mature	150-250	5-10m	3	Good	Good	-	-	40+	-
T5	Scots pine	Early-mature	250-350	5-10m	3	Fair	Fair	Spare canopy	-	20-40	-
T6	Scots pine	Early-mature	350-500	10-15m	3	Fair	Good	Minor deadwood	-	20-40	-
T7	Scots pine	Early-mature	350-500	10-15m	3	Good	Fair	Stem damage on north side upto 1m. Some wound wood forming.	-	20-40	-
T8	Holly	Semi-mature	75-150	0-5m	0	Good	Fair	Growing adjacent to wooden fence.	-	20-40	-
T9	Norway maple	Mature	350-500	5-10m	3	Fair	Fair	Large wound on trunk on north side as a result of historic limb failure. Wound wood forming.	-	20-40	-
T10	Norway maple	Mature	350-500	5-10m	3	Fair	Fair	Suspected early signs of verticillium wilt.	Remove 3 central dysfunctional stems back to live wood.	20-40	2
T11	Ash	Over-mature	1000+	5-10m	2	Fair	Good	Old pollard. Ash dieback present. Low risk of harm.	-	10-20	-
T12	Horse chestnut	Mature	750-1000	10-15m	3	Good	Fair	Upright habit. Some tight forks with natural braces present.	-	20-40	-
T13	Hawthorn	Young	75-150	0-5m	2	Good	Good	-	-	40+	-

7:0 IMMEDIATE CONCERNS

The survey identified no immediate (priority 1) health and safety works to the trees within the curtilage of Thicket Walk Open Space.

8:0 FUTURE MANAGEMENT

The recommendations given below are for future management and to give extra depth to the recommendations in section 6:0. The recommendations are based on arboricultural best practice.

8.1 **T10 – Norway maple –** This tree is showing early signs of Verticillium wilt. This fungal disease is exacerbated during periods of hot, dry weather such as that experienced in the summer of 2022.

Whilst no cure exists it can be managed by removing the dead branches back to live wood.

9:0 CONSIDERATIONS

9.1 Timing of works

The optimum time to undertake tree works are when the tree is in full leaf. At this point the tree has produced enough energy to react positively to the pruning, and will be able to produce more energy before dormancy in winter for bud burst in the following spring.

A full inspection of the tree for birds and bats should be undertaken prior to works. The table below gives an indication of the best times to prune for the tree, the birds and the bats.

Table 1. Phenology of tree pruning

Months	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Trees	√	√	x	x	x	√	√	√	√	x	x	√
Bats	x	x	√	√	√	x	x	x	√	√	√	x
Birds	√	√	x	x	x	x	√	√	√	√	√	√

√ = Optimum time to prune

Note 1: The limitations on tree health are only relevant if the tree is being retained. Time of year is not important for felling. An Ecologist could provide further information about birds and bats.

Note 2: The optimum time to prune a tree is midsummer. If pruning is to be carried in the winter months, then it is important that it is during a period of mild temperatures.

9.2 Felling licence

Licences from the Forestry Commission are required when felling more than 5 m^3 of timber in one calendar quarter. Works to dead or dangerous trees are exempt from this licence as are any tree surgery works. This covers all the works that I have recommended. Permission might be required for any additional works.

9.3 Ivy control

Ivy is a native creeper that has many ecological benefits. It provides shelter for bats, birds and a variety of invertebrates, but can sometimes cause problems for trees and structures. Ivy growth on a tree can hide defects within the tree during tree inspections. Dense ivy within the crown can increase the sail area of the tree, making it more prone to failure in high winds. On the walls of buildings, the adventitious roots of ivy can find their way into existing defects such

as holes, cracks or gaps in the mortar, and through circumferential growth of woody tissue, exacerbate these defects. If left to grow to the roof they can dislodge tiles.

Should it be necessary to remove ivy, it is recommended that the ivy is severed at the base of the tree or structure and left to die off before removing. This allows any nesting birds or roosting bats to alight the ivy (it is an offence to disturb nesting birds or roosting bats under the Countryside and Rights of Way Act 2000), and it allows the adventitious roots to release their grip of loose mortar on a structure or bark on a tree, thus reducing damage as the ivy is removed.

9.4 Legal obligations

Tree owners have a legal duty of care to maintain their trees to an acceptable level of safety to ensure that no harm is caused by them to third parties or their property.

The Occupiers Liability Act 1957 and 1984 places a legal duty on the occupier of the house to keep visitors, invited or not, from suffering injury on the premises from a 'concerned danger'. This duty of care is satisfied if the occupier takes reasonable steps to ensure that anyone they might reasonably expect to enter their land is kept reasonably safe from danger whilst on their premises. A tree survey, such as this document is considered a reasonable step, and as long as the tree works that have been prescribed as health and safety have been undertaken, the duty of care has been discharged. Please see section 8.6 for recommended re-inspections.

The Highways Act 1980 places a duty on tree owners to ensure their vegetation does not impede the public highway, which includes footpaths and streetlights. In order to comply with this, a clearance of 2.5m over a footpath, and 5.4m over a road is usually stipulated by the Highway Authority. Actual heights of clearance are not stated within the Act, and the Highway Authority reserve the right to set these clearances depending on use of the road. Under *section 154* of the Act the Highway Authority can serve a notice on the tree owner to undertake any necessary tree works.

The Wildlife and Countryside Act 1981 and its amendments in *The Countryside and Rights of Way Act 2000* makes it an offence to disturb a birds nest which is in use, which is normally taken to mean under construction, or with eggs, chicks or birds using it regularly - even if they are not actually in it at the time. For this reason, it is prudent to wait until the bird nesting season has finished before undertaking hedge works. A thorough inspection of the hedge for nesting birds should be undertaken prior to any works commencing. Similar checks should be carried out for tree works.

9.5 Common Law Right of Abatement

In English common law a right to abate a legal nuisance exists, enabling a property owner or tenant to prune any overhanging vegetation or trespassing roots entering their land from trees on neighbouring land up to but not beyond, their boundary line. This does not give rights to trespass onto the neighbouring land and so permissions from the land owner must be sought if access to their land is needed to carry out the pruning works. Any arisings from this work must be disposed of responsibly.

9.6 Tree Preservation Orders and Conservation Areas

It is necessary to contact South Gloucestershire Council's Planning Dept to ascertain the presence of any Tree Preservation Orders (TPOs) or Conservation Areas (CAs). Relevant permissions will be required. South Gloucestershire Council will advise further.

9.7 Tree Works

All tree works must be carried out to BS 3998:2010 *Tree work - Recommendations* standards by competent arborists who can show proof of relevant insurances and qualifications.

9.8 Future tree inspections

It is recommended that the trees are **reinspected every two years** for health and safety. These inspections should be carried out by a competent arboriculturist who can show proof of relevant insurances and qualifications.

Sources of Information

BSI Standards Publication (2010) BS3998 *Tree Works – Recommendations* BSI: London

BSI Standards Publication (2012) BS5837 *Trees in relation to design, demolition and construction – Recommendations* BSI: London

Lonsdale, D (1999) *Principles of Tree Hazard Assessment and Management*, TSO: London

Matheny, N.P & Clark, J.R (1994) *Evaluation of Hazard Trees in Urban Areas* 2nd Ed ISA Illinois

Mattheck, C & Breloer, H (2003) *The Body language of Trees*, TSO: London

Read, H (2000) *Veteran Trees: A guide to good management*, English Nature: London

Strouts, R.G & Winter, T.G (2004) *Diagnosis of Ill-Health in Trees*, TSO: London

APPENDIX A – Ash Dieback

Introduction

Ash Dieback Disease (ADD) is caused by the fungus, *Hymenoscyphus fraxineus. H.fraxineus* blocks the trees' vascular system preventing water and nutrients from reaching the extremities of the branches.

Wilting of leaves and dieback of twigs are early signs of the disease, as are diamond-shaped lesions on the trunk at the base of infected branches. As the lesions slowly girdle the branch further dieback of shoots and branches in the upper crown occurs.

As the disease progresses, a profusion of live shoots (epicormic shoots) is often noticed below the dying branches. This is a reaction to stress in which the tree attempts to increase its leaf cover to aid photosynthesis.

Distribution and significance

The disease has swept through Central and Western Europe with the first confirmed finding in the UK in 2012, although it is believed to have been in this country since 2004. In 2012, cases of the disease were noted in nurseries in the West of England. Since 2017, symptoms of the disease have been found more frequently and mature trees are now declining.

Lessons learned from mainland Europe is that decline in the tree is often rapid once the disease takes hold. Figures of up to 80% of ash trees are thought to have declined or died in Poland and an estimated 1.95 billion ash trees are predicted to be lost in the UK. (1.8 billion sapling and young trees and 150 million mature trees)[1].

Assessment and management

Although decline in affected trees is thought to be swift, not all trees showing symptoms necessarily require removal. The wholesale removal of infected ash trees would have a profound effect on both the local landscape and the eco structure of our woodlands. A more measured target-led approach will provide a good balance between managing the trees for health and safety and retaining trees where possible and monitoring their progress. Some dead trees can be retained for valuable habitat purposes while others may show signs of resistance to ADD.

For ease of assessment, we have identified 3 stages of ADD which are shown below:

[1] Forestry Commission Pest Alert – Ash Dieback Disease 2013

Stage 1 – This is onset ADD, where bare twigs are present yet the remaining crown appears healthy with no other symptoms yet visible. Approximately 10% of the crown is affected.

These trees can be generally be monitored and reassessed in 12 months time.

Plate 1: Stage 1 ADD showing bare twigs with no reaction growth present. Often localised with remaining crown healthy.

Stage 2 – The dieback becomes more pronounced and epicormic growth begins to appear below the deadwood on the affected branch. Approximately anything up to 50% of the crown is affected.

Where the target is considered high, tree surgery works should be undertaken in the form of either pruning or removal.

Plate 2: Stage 2 ADD – epicormic growth below areas of dieback

Stage 3 – Epicormic growth has spread throughout the crown and dieback exceeds approximately 50%-75% of the crown is affected.

Tree removal would normally be required if the target level deems it necessary. A mobile Elevated Work Platform (MEWP) would be needed due to the brittle deadwood preventing access to the tree via rope and harness.

Tree removal may be avoided if:

a) **The target level is low and tree can be retained for deadwood**
b) **Other management options are preferred, i.e. pruning or removal of the target**

The above management strategy will be reviewed annually.

NOTE: In areas of densely planted ash trees, the higher concentration of fungal spores from the previous year's leaf litter can cause **basal lesions** in the trunk. Secondary pathogens, such as honey fungus (Armillaria spp.) may then enter the tree and cause basal or root rot. When lesions are discovered and a target exists, **felling of the tree should be undertaken** as soon as is practicable.[2]

Plate 3: Stage 3 – Significant leaf loss. Epicormic growth is the only crown cover

Plate 4: Stage 3 – Tree is too structurally compromised to access with rope and harness.

[2] Observatree (2016) Field Identification Guide – Chalara ash dieback

The need for restocking

The impact of ADD on the UK landscape is likely to be significant. Further to this, the Committee on Climate Change (CCC) recommends between 30,000-50,000 hectares of woodland needs to be planted annually in the UK to achieve national carbon reduction targets of net zero emissions by 2050. This is notwithstanding tree losses projected as a result of ADD. It is therefore important to factor in a considered and effective tree replacement plan which should, where possible include both native and non-native trees that in maturity would offer large crowns, as these sequester greater amounts of carbon and support a wider array of wildlife.

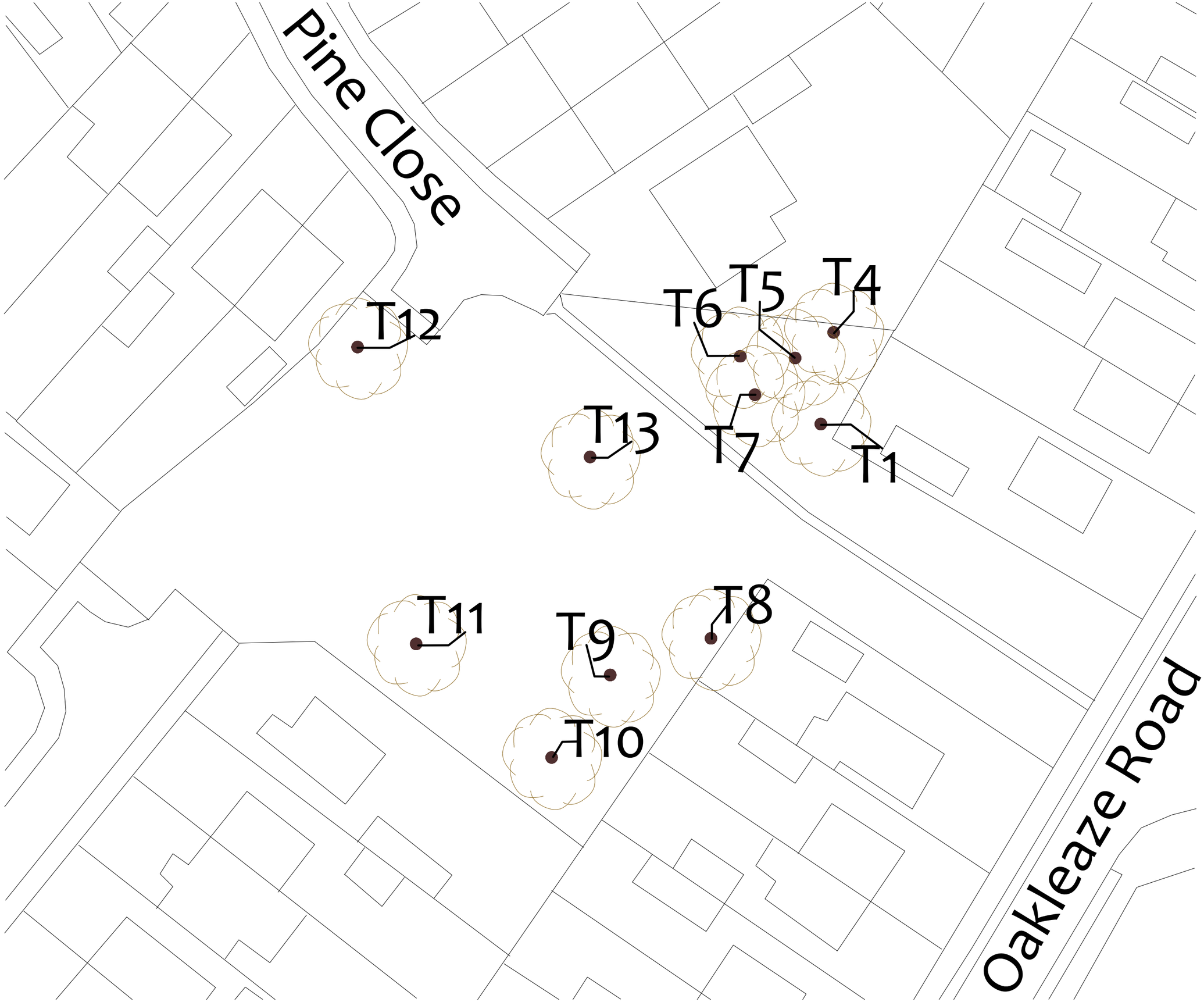
In order to increase resilience of woodlands, a wide variety of species should be planted, making the woodland less vulnerable to disease.[3]

A full site assessment should inform the choice of species and number of replacement trees.

[3] FC ON046 - *Managing ash (Fraxinus excelsior) in woodlands in light of ash dieback (Hymenoscyphus fraxineus)*

APPENDIX B – Map

WTC_1044.02



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WTC
WottonTreeConsultancy

Key

Tree

Project

Thicket Walk Open Space
Thornbury

Title

Tree Location Plan

		Rev	Rev date
Drg No	WTC_1044.02		
Scale @A3	Not to scale	Drn by	PD
Date	Dec 2022	App	

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Wotton Tree Consultancy Ltd

Date: 19th December 2022

[End of report]