MMARBORICULTURE

MMARBORICULTURE
7 Cadmus Court, SW9 0PG
Phone: 07463639710
Email: info@mmarboriculture.com
Web: www.mmarboriculture.com

TREE CONDITION REPORT

Bushy Park Gardens, Teddington TW11 0LQ

Report by

Michal Mixa FdSc.

On the instructions of Island Site Trustees.

Tuesday, 2 April 2024

MMARBORICULTURE
7 Cadmus Court, SW9 0PG
Phone: 07463639710
Email: info@mmarboriculture.com
Web: www.mmarboriculture.com

1 Introduction and Report Background

1.1 Instruction

1.1.1 MMEnvironmental Ltd. have been instructed by Island Site Trustees to carry out a tree survey; appraise risk associated with the tree failure; and produce the Tree Condition report summarising the collected data and provide recommendations for mitigation action, if any required at Bushy Park Gardens, Teddington TW11 0LQ.

1.1.2 The purpose of the survey is to collect the data to map tree population within the site boundary, determine whether a tree poses an unreasonable risk to people or property and provide recommendations for the works to mitigate the risk. Trees may be predisposed to failure as a result of recognisable hazardous features such as root damage, cracks or cavities, in the trunk, the presence of fungal fruiting bodies which may indicate internal decay, weak forks, break-out cavities and abrupt bends in branches e.g. however trees are not usually hazardous due to their size. Any recommendations follow principles of British Standard BS3998:2010 Tree works – Recommendations.

1.2 Methodology and Limitation

1.2.1 A tree safety inspection aims to determine whether a tree poses an unreasonable risk to people or property. Trees are not usually hazardous simply because of their size. However, trees may be predisposed to failure because of recognisable hazardous features including, for example, root damage, cracks or cavities in the trunk, the presence of fungal fruiting bodies which may indicate internal decay, weak forks, break-out cavities and abrupt bends in branches. The industry standard tree inspection procedure is known as Visual Tree Assessment (VTA) and involves examining a tree from ground level to detect possible weaknesses. If necessary, this may be supplemented by tapping the trunk or buttress roots with a sounding mallet to assess the possible presence of internal decay. Recommendations are then made for work considered necessary to mitigate the risk.

1.2.2 The principles of Visual Tree Assessment are discussed in *Principles of Tree Hazard Assessment and Management* by David Lonsdale (Research for Amenity Trees No. 7, Forestry Commission, 1999) and have been incorporated into a Practice Guide issued by the Forestry Commission in 2000 entitled *Hazards from Trees - A General Guide*. The National Tree Safety Group has issued guidance on tree management and inspections in their publication entitled *Common sense risk management of trees* (NTSG 2011). All these publications have contributed to the procedure adopted by MMARBORICULTURE Ltd for VTA tree safety inspections. An extract from a Forestry Commission leaflet is provided in Appendix **2** and illustrates the assessed features, which indicate a potential hazard.

1.2.3 The recommendation risk rating is created on the bases of the work priority required to mitigate the risk:

- Urgent – Tree requires immediate action to avoid tree or tree part failure
- High – Tree requires mitigation action with reasonably short period (about 1 season or 6 month) to avoid tree or tree part failure.
- Medium – Tree has condition which require some attention, usually not directly associated with the risk of tree or tree part failure, but good management practice, utility pruning e.g. (removal of branches obstructing the pathway, removal of branches touching the building e.g.)
- Low – Tree recommendation based on “preventive pruning” of tree parts which may cause annoyance or become low just before reinspection period. (e.g., basal growth removal; tree branches just above 3m height)

1.2.4 The tree condition can rapidly change due to unpredictable factors, such as climatic and manmade events. The risk assessment is based on the factors apparent at the time of the site visit. The re-inspection of trees for health and safety condition should be made on an annual basis.

1.3 Legal constraints

1.3.1 The undertaken online investigation with London Borough of Richmond confirmed that the site does not include trees protected by Tree Preservation Order (TPO). The search also identified that the site is located within Conservation Area (CA). As such, the proposed works must be submitted in written to LPA at least 6 weeks prior commencement.

2 The Site and Observations

2.1 The site visit

2.1.1 A site visit was conducted **5th October 2024** to carry out the survey.

2.1.2 The site is a park gardens within residential neighbourhood. All trees are within a vicinity of pedestrian or vehicular traffic as such the target zone of trees is graded as high.

Figure 1 Site in situ.

2.2 Tree population summary

2.2.1 The tree survey identified total of 112 individual trees, from which 97 trees are in good, 9 in fair, 4 poor condition and No trees were identified as dead (Figure 3).

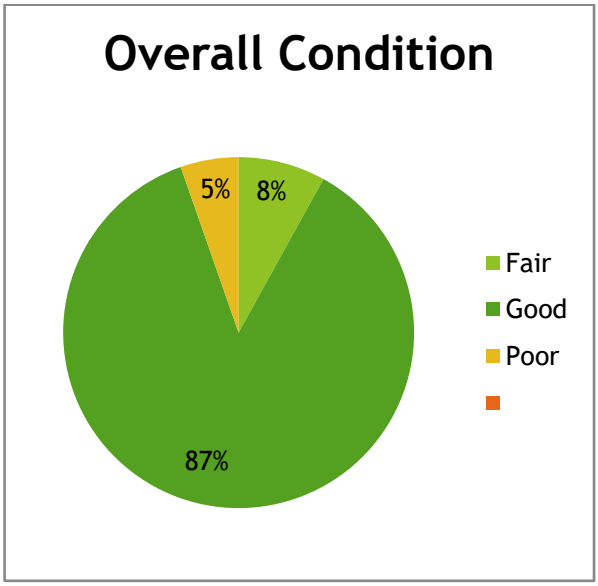


Figure 2 Percentage of tree condition.

2.2.2 The survey identified that species included are Box elder, Cherry Plum, Common Ash, Common Holly, Downy birch, English Elm, European lime, Cherry Laurel, Midland hawthorn, Privet, Turkey Oak, Weeping Willow and Whitebeam (Figure 4)

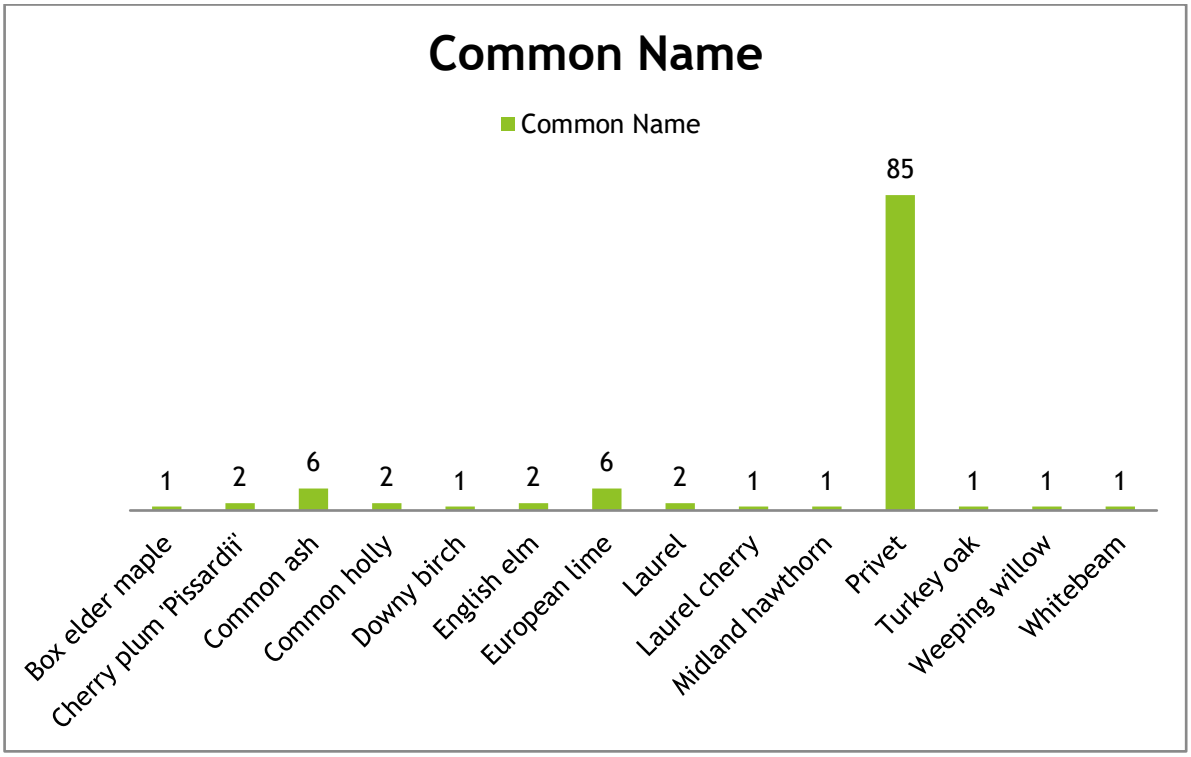


Figure 3 Tree population composition

2.3 Tree works summary

2.3.1 No urgent or immediate tree works were identified.

2.3.2 T008; T009 and T020 are recommended for removal. T008 removal is more of further management nature to allow development of adjacent trees. T009 has damaged apical leader as such its further development may be problematic causing regular pruning shortening its lifespan. T020 is recommended for removal due to hollow base and kept as a coppiced tree (low pollard).

2.3.3 T007; T010; T012; T016; T021 and T022 require removal of deadwood. Additionally, T007 require removal of hanging branches. T012 require deadwood removal and reinspection after the dormant period (April – September) to monitor the health development.

2.3.4 T002; T017 and T025 require reduction in height. T002 shall be considered to maintain at 4m height due to decay and cavity at the base. T017 has a weak union with included bark. T025 has numerous stem cavities and is subject of previous pruning works, which creates weak structural points.

2.3.5 H001 and T027 require following the ongoing maintenance by cutting back from roadway and pathway.

2.3.6 T003; T004; T005; T006; T018 and T019 require severance of ivy to allow full inspection. Additionally, T019 require 4m crown lift and basal removal to create a ground clearance for pedestrians.

2.3.7 T001 and T024 require following the ongoing regular pruning regime (pollard) and removal of the basal growth. T024 shall be considered as retained as a monolith for wildlife due to base cavity and its location next to the road.

2.3.8 Detailed survey data can be found in Appendix 3 Tree Schedule and Tree works recommendations in Appendix 4 with tree works priority.

3 Discussion and Recommendations

3.1.1 All trees on site were inspected and data collected (Appendix 3). Trees which were identified to require mitigation action were summarised in Tree Work Schedule see Appendix 4.

3.1.2 All trees should be regularly reinspected, as trees are in high target area the reinspection period reasonable for all trees is set to be 3 years to ensure the safety. Some trees have been identified to have different reinspection period due to environmental, seasonal, or other conditions. It shall be noted that a condition of trees is a dynamic process and can change during this period. If rapid decline is identified or any defect which may be of concern by general observer experienced arboriculturist shall be contacted and matter investigated.

3.1.3 All recommended tree works should comply with British Standard BS 3998:2010 Tree works: Recommendation and should be completed by Arboricultural Approved Contractor. The list of the approved contractors can be found: https://www.trees.org.uk/Find-a-Professional/Find-a-Tree-Surgeon.

Appendix 1 – References

1. British Geological Survey (2014). http://mapapps.bgs.ac.uk/geologyofbritain/home.html. BGS, Keyworth, Nottingham.

2. G. Mercer, A. Reeves & D. O'Callaghan. 'The Relationship between Trees, Distance to Buildings and Subsidence Events on Shrinkable Clay Soil' AB Academic Publishers 2011. Arboricultural Journal, 33, 229-245.

3. BSI (2010) BS 3998:2010 'Tree Work – Recommendations. British Standards Institute
4. BSI (2014) BS8545: Trees from nursery to independence in the landscape: Recommendations. British Standards Institute

5. BSI (2012) BS5837: Trees in Relation to Design, Development and Construction: Recommendations. British Standards Institute

6. BSI (2014) BS8545: Trees from nursery to independence in the landscape: Recommendations. British Standards Institute

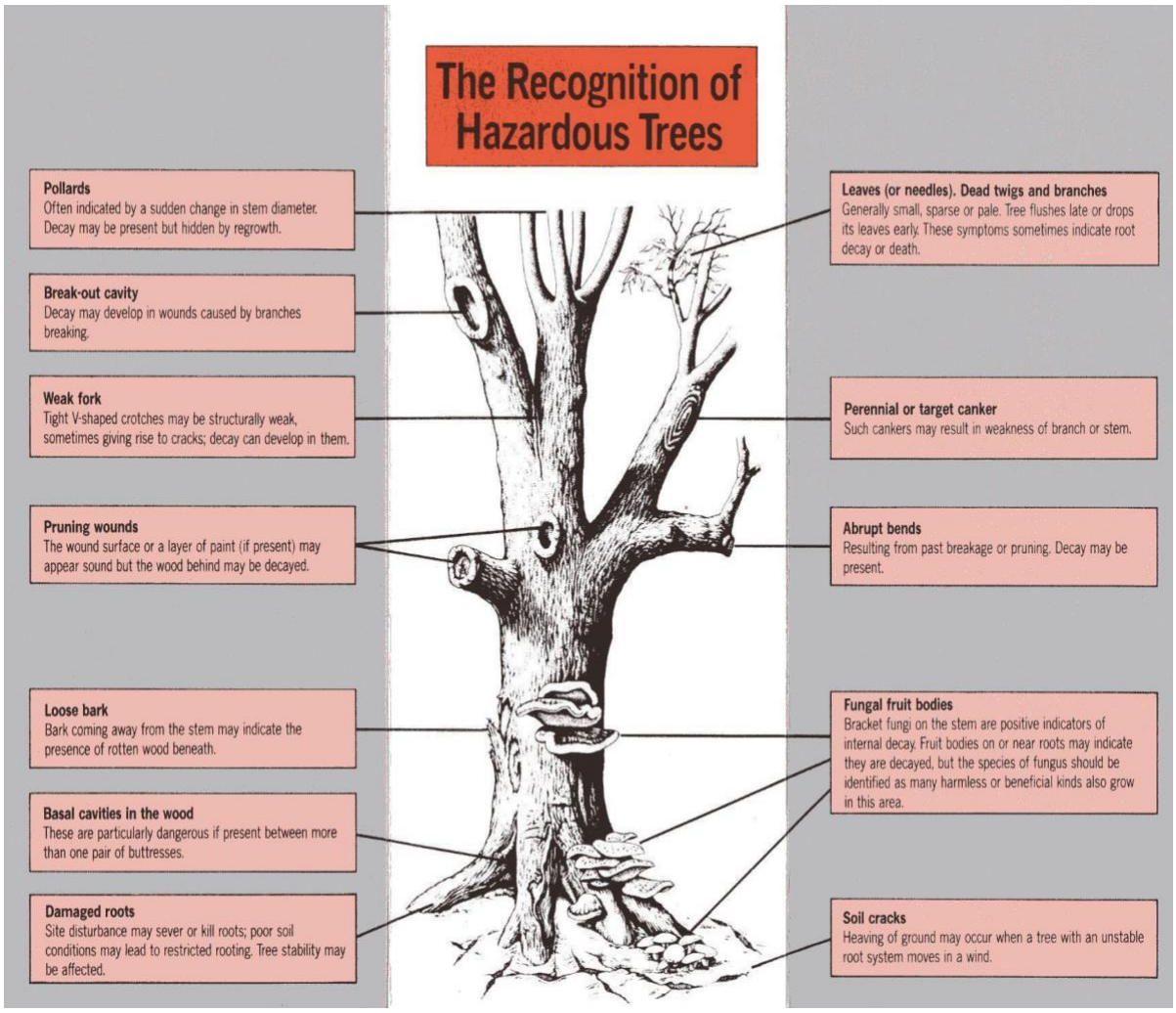
7. National joint utilities group (2007) NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees

8. The National Archives (2017) Town and Country planning act, 1990, http://www.legislation.gov.uk/ukpga/1990/8/contents; Accessed 20.02.2017

9. Trees and design action group (2014) Trees in a hard landscape: Guide for delivery

10. Department for Communities and Local Government (2014) Tree Preservation Orders and trees in conservation areas.

Appendix 2: Recognition of Hazardous Trees. Published by Forestry Commission but now out of print.



Appendix 3: Tree Schedule

Surveyor	Brodie Cherry	Date	5th October 2024

Data collected for each tree includes the following information:

- Sequential reference number, i.e., T001, T002, T003 etc.
- Species:
    - Common Name
    - Botanical Name in Latin
- Measurements:
    - Height (in meters).
    - Crown Radius (in meters).
    - Stem diameter in Breast Height (DBH) (in Centimetres).
    - Number of trees (if group, hedge or shrub)
    - Life stage (Young, Semi Mature, Early Mature, Mature, Veteran).
    - Estimated life expectancy (>10 years, 10 + years, 20 + years, 30+ years, 40 + years).
- Survey Notes
- Condition (Good, Fair, Poor, Dead)
- Reinspection Frequency

Ref.	Botanical Name	Common Name	Structure	Num. Stems	Height (m)	DBH (mm)	Crown Spread (m)	Life Stage	Life Span (Years)	Survey Notes	Condition	Reinspection
H001	Ligustrum vulgare x85	Privet x85	Hedge	85	1.5	100	2.00	Semi Mature	10+	Maintained perimeter hedge/border with low level chain linked fence. Occasional stem of naturalised holly intermixed	Good	1 Year
T001	Tilia x europaea	European lime	Tree	1	13	380	5.00	Semi Mature	20+	Two stems previously removed at base, basal growth, limited canopy to north on account of removal of stems. Appears to have been subject to crown reduction	Good	3 Years
T002	Prunus laurocerasus	Laurel cherry	Tree	4	7	20	4.00	Semi Mature	20+	Sprawling group, evidence of some reduction work in the past. Decay and cavity at base of central spire.	Fair	2 Years
T003	Laurus sp.	Laurel	Tree	1	5	185	3.00	Early Mature	10+	Pruned at road edge	Fair	1 Year
T004	Fraxinus excelsior	Common ash	Tree	1	16	565	5.00	Mature	20+	Subject to crown reduction, some minor deadwood visible in upper canopy, trunk trifurcates at circa, 7m. Ivy beginning to grow at base. Two young elms near base.	Fair	2 Years

T005	Ilex aquifolium	Common holly	Tree	3	6	170	3.00	Young	10+	Included union at base partially obscured by ivy.	Good	1 Year
T006	Ilex aquifolium	Common holly	Tree	2	6	180	2.00	Young	20+	Adventitious root to north, basal growth on lower juvenile stem, flush cut pruning wound to south. Ivy beginning to grow at base	Good	1 Year
T007	Laurus sp.	Laurel	Tree	1	8	292	3.00	Semi Mature	20+	Lateral branches to south have been pruned, minor deadwood in lower crown, basal growth and ivy at ground level, bifurcates at 3m	Good	3 Years
T008	Betula pubescens	Downy birch	Tree	1	4	145	3.00	Young	<10	Poorly formed misshapen tree with dominant extended branch growth to south, bark wounds/squirrel damage	Poor	1 Year
T009	Quercus cerris	Turkey oak	Tree	1	7	145	4.00	Young	20+	Bark wounding visible throughout and deadwood to west. Damage where central leader emanates. Damage to main leader/pruning wound	Fair	1 Year
T010	Fraxinus excelsior	Common ash	Tree	1	16	315	5.00	Early Mature	20+	Stem felled at base, leaning towards roadside to the west, some minor deadwood over the road in the lower canopy.	Fair	1 Year
T011	Fraxinus excelsior	Common ash	Tree	1	18	310	4.00	Early Mature	20+	Deadwood to east on lowest branch and the one above it,	Good	3 Years

T012	Ulmus procera	English elm	Tree	1	13	285	3.00	Early Mature	10+	Sparse canopy and dieback on roadside.	Fair	1 Year
T013	Ulmus procera	English elm	Tree	1	7	115	2.00	Young	20+	Stem from coppice stool at base,	Fair	3 Years
T014	Tilia x europaea	European lime	Tree	1	17	625	5.00	Mature	20+	Basal growth on stem over road not currently an issue. Subject to crown reduction in previous years, extension growth looks reasonable, minor deadwood visible in lower canopy on woodland side. Old pruning wounds and negligible cavities	Good	18 Months
T015	Sorbus aria	Whitebeam	Tree	1	6	115	1.50	Young	20+	Squirrel damage visible near roadside in upper canopy	Good	3 Years
T016	Fraxinus excelsior	Common ash	Tree	1	16	475	4.00	Mature	20+	Subject to crown reduction works in recent years. Some minor deadwood and cavities	Fair	1 Year
T017	Crataegus laevigata	Midland hawthorn	Tree	2	8	190	3.00	Young	10+	Tight included union from ground level, some basal growth.	Fair	18 Months
T018	Fraxinus excelsior	Common ash	Tree	1	14	435		Mature	20+	Previously crown reduced, ivy and bramble at base,	Good	1 Year
T019	Tilia x europaea	European lime	Tree	2	15	295	4.00	Early Mature	20+	Smaller central stem removed at base. Ivy obscuring base	Good	2 Years
T020	Prunus cerasifera 'Pissardi'	Cherry plum 'Pissardii'	Tree	1	5	370	2.00	Semi Mature	<10	Sounding hollow at base, cavity evident and subject to reduction.	Poor	1 Year

T021	Salix babylonica	Weeping willow	Tree	1	4	335	8.00	Early Mature	10+	Pronounced growth habit to the north west, self propped by branch to ground supported and weight. Horizontal growth habit	Poor	1 Year
T022	Fraxinus excelsior	Common ash	Tree	1	16	495	5.00	Mature	20+	Crown reduced in previous years, extension growth is normal, some deadwood present to east. Cavity/pruning wound in main stem at height viewed from east roadside	Good	1 Year
T023	Tilia x europaea	European lime	Tree	1	12	320	3.00	Early Mature	20+	Previously topped or subject to pollarding at 11m. Wound at base to north appears sound and is excluding well	Good	1 Year
T024	Tilia x europaea	European lime	Tree	1	8	70	2.00	Mature	10+	Cavity at base near roadside.	Fair	1 Year
T025	Tilia x europaea	European lime	Tree	1	14	575	5.00	Mature	20+	Stem cavities visible from roadsides, occlusion at 4m appears sound/normal growing towards nearby utility pole/wires. Subject to crown reduction works at circa 10m in previous years	Fair	1 Year

T026	Prunus cerasifera 'Pissardi'	Cherry plum 'Pissardii'	Tree	1	5	480	5.00	Mature	<10	Major cavities and multiple pruning wounds	Poor	1 Year
T027	Acer negundo	Box elder maple	Tree	1	6	10	4.00	Young	20+	N/A	Good	1 Year

Appendix 4: Tree Works recommendations summary

Data presented:

- Sequential reference number, i.e., T001, T002, T003 etc.
- Species:
    - Botanical Name in Latin
- Immediate Recommendations
- Timescale priority (No Action, Low, Medium, Hight, Urgent)
- Long-term Recommendations
- Timescale (month/ years)

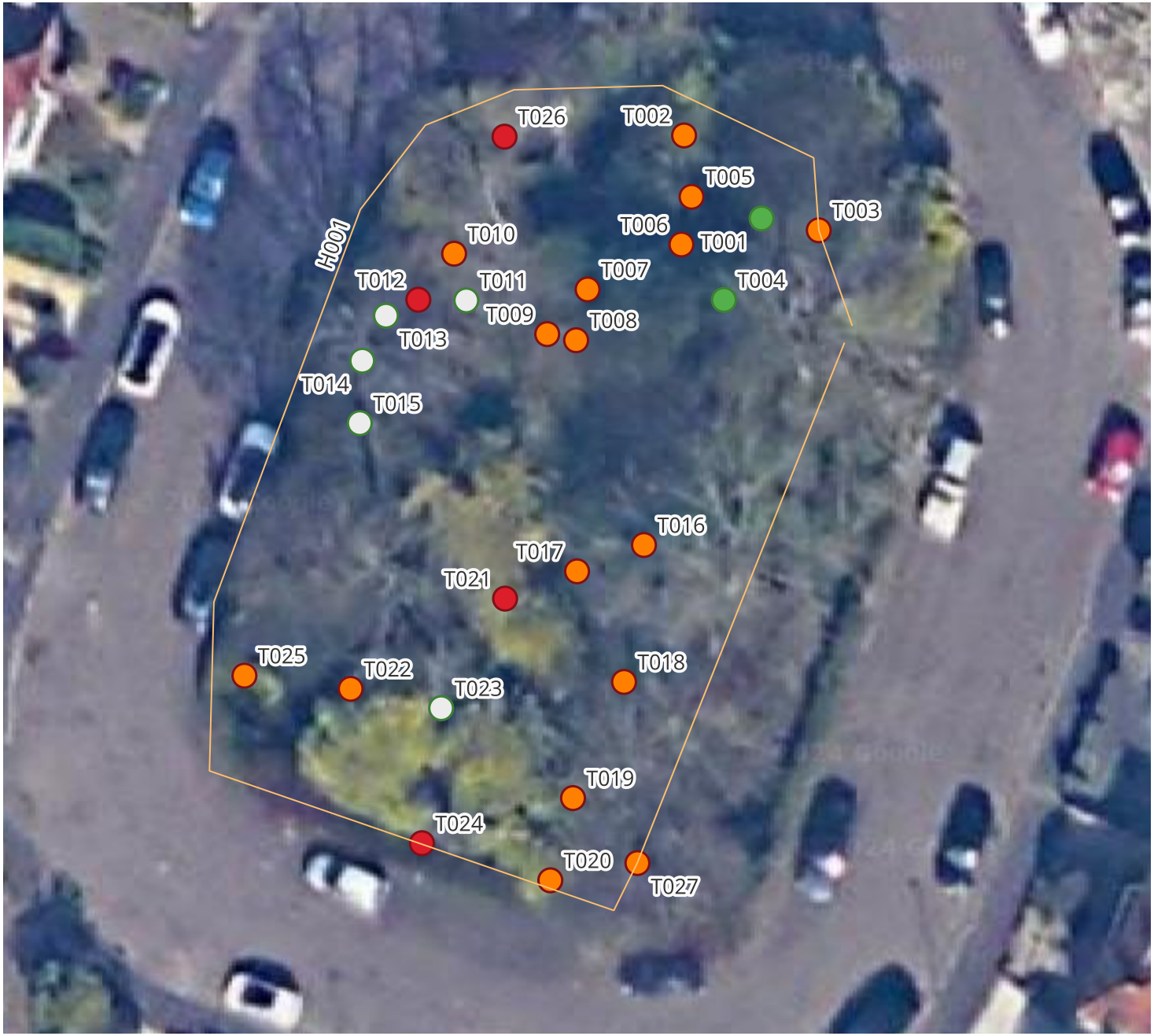
Ref.	Botanical	Immediate Recommendations	Timescale	Long term Recommendations	Timescale
H001	Ligustrum vulgare x85	Ongoing maintenance requirements to enable perimeter screening and delineate road/woodland edges. Some gaping up to mix species with native whips could be considered	**Medium**	No action required.	No Action
T001	Tilia x europaea	Remove basal	**Low**	No action required.	No Action
T002	Prunus laurocerasus	Reduce in height to 5m	**Medium**	Consider regular maintenance to maintain at 4m in height	3 Years
T003	Laurus sp.	Sever ivy at base	**Medium**	Continue pruning back from roadside, carrying some minor deadwood, old pruning wounds visible from the roadside. Main train at approx. 4m in height	3 Years
T004	Fraxinus excelsior	Sever ivy at base and monitor/inspect for deadwood in spring	**Low**	Reinspection and consider reduction dependant on extension growth and condition findings	3 Years
T005	Ilex aquifolium	Sever ivy	**Medium**	Consider coppicing on account of included union	2 Years
T006	Ilex aquifolium	Sever ivy	**Medium**	No action required.	No Action
T007	Laurus sp.	Remove deadwood, hanging branches, basal, sever ivy and crown lift to 3m	**Medium**	No action required.	No Action
T008	Betula pubescens	Recommend removal as a selective thinning. Nearby young Elm in vicinity to benefit.	**Medium**	No action required.	No Action
T009	Quercus cerris	Recommend removal in account of damage to apical leader.	**Medium**	No action required.	No Action
T010	Fraxinus excelsior	Deadwood	**Medium**	No action required.	No Action
T011	Fraxinus excelsior	No Action	No Action	No Action	No Action
T012	Ulmus procera	Remove deadwood and reinspect in spring.	**High**	Check DED and overall tree condition and coppice when applicable	6 Months

T013	Ulmus procera	No Action	No Action	No Action	3 Years
T014	Tilia x europaea	No Action	No Action	No Action	No Action
T015	Sorbus aria	No Action	No Action	No Action	No Action
T016	Fraxinus excelsior	Deadwood in spring	**Medium**	No Action	3 Years
T017	Crataegus laevigata	Reduce in height by 2.5m on account of lower fork and remove basal growth	**Medium**	No Action	3 Years
T018	Fraxinus excelsior	Sever ivy and monitor	**Medium**	No Action	No Action
T019	Tilia x europaea	Sever ivy, crown lift to 4m and remove basal	**Medium**	No action required.	No Action
T020	Prunus cerasifera 'Pissardi'	Remove due to hollow base, extensive cavity and proximity to road or maintain as low pollard (2.5m) for invertebrates	**Medium**	No Action	No Action
T021	Salix babylonica	Remove deadwood at extremities near ground level. Inspect existing prop or install stronger prop if long term retention is considered.	**High**	Monitor extension growth beyond prop and keep at manageable levels in subsequent years.	2 Years
T022	Fraxinus excelsior	Deadwood and assess/probe depth of cavity at height. Reduce limb towards roadside to alleviate end loading weight in stem with cavity.	**Medium**	No Action	No Action
T023	Tilia x europaea	No action required.	No Action	No action required.	No Action
T024	Tilia x europaea	Repollard to previous and remove basal.	**High**	Retain as monolith for wildlife	3 Years
T025	Tilia x europaea	Reduce in height by 3-4m and prune back from nearby utility pole/wires to provide better separation clearance. Climbing inspection or discussion with tree surgeon to probe cavity.	**Medium**	Speak with arborist who performs any work to gain his/her understanding of the trees stability at height	1 Year

T026	Prunus cerasifera 'Pissardi'	Maintain as low pollard in accordance with previous works. Consider removal on account of long term cost implications. Replace with suitable new tree to maintain contigous wooded cover and maintain public amenity.	**High**	Consider removal on account of long term cost implications. Replace with suitable new tree to maintain contigous wooded cover and maintain public amenity.	3 Years
T027	Acer negundo	Consider pruning back from roadway when applicable	**Medium**	No Action	No Action

Appendix 5: Tree Plan

Bushy Park Gardens,Teddington TW11 0LQ



Tree Survey Priority

Hedgerows

- Medium

Individual Trees

- High
- Medium
- Low
- No Action

0 2.5 5 m

Appendix 6: Glossary of terms

Basal Growth
New shoots or suckers that emerge from the base of a tree, often in response to stress, pruning, or damage. These may need to be managed as they can compete with the tree for nutrients and water.

Bracing
The use of supports, such as cables or rods, to reinforce a tree's structure and reduce the likelihood of failure in weak or vulnerable sections.

Branch Bark Ridge and Collar
Natural features found where a branch joins the trunk or another branch. These should not be damaged or cut during pruning, as they play an important role in the tree's health.

Callus
Tissue that forms over a wound on a tree, gradually differentiating into specialized cells to aid in recovery.

Cavity
A hollow area inside the tree, usually caused by decay or damage to the wood. These may hold water or remain dry and should only be managed by removing soft decomposing tissue if necessary for assessment. Living tissues should never be exposed.

Co-dominant Stems
Two or more main stems of roughly equal size and vigour that grow from the same point. The connection between these stems should be evaluated to ensure the tree's stability.

Coppicing
A traditional method of cutting a tree near ground level to encourage new growth. This technique is commonly used for species like Hazel and Sweet Chestnut to produce stakes and poles.

Crown
The upper portion of a tree, including its branches and foliage, but excluding the trunk or clear stem.

Crown Reduction
A pruning method used to decrease the overall size of a tree's canopy while preserving its natural shape. This is achieved by selectively shortening branches to appropriate growth points, often for safety or aesthetic reasons.

Deadwood
Branches or stems that have died, often due to age or environmental factors. While deadwood is an important habitat for wildlife, it may need to be managed if it poses a risk.

Decline
A gradual reduction in a tree's health, often indicated by smaller leaves, poor color, or reduced density of foliage.

Dieback
The progressive death of branches or shoots, typically starting at the tips, due to environmental stress or disease.

Dormant
The period of a tree's life cycle when growth temporarily stops, usually during winter, when deciduous trees lose their leaves.

Drop Crotching
A pruning technique that involves shortening a branch by cutting it back to a smaller, lateral branch, ensuring the remaining branch is at least one-third the diameter of the one removed.

Fertilizing
Adding nutrients to the soil around a tree to encourage healthy growth or address deficiencies. This is only effective if the problem is nutrient-related; other issues like soil compaction or physical damage require different interventions.
Formative Pruning
Early-stage pruning to shape a young tree, improving its structure and reducing the likelihood of future defects or weaknesses.
Fungi/Fruiting Bodies
Fungi are organisms that may grow on or within a tree. Fruiting bodies are their reproductive structures, such as mushrooms. Their presence may indicate decay or a beneficial relationship with the tree's roots. Specialist assessment is required to determine their impact.
Lopping and Topping
Outdated pruning practices involving the removal of large branches (lopping) or the upper crown (topping). These methods can harm the tree's health and structure and are now generally discouraged.
Painting or Sealing
The application of sealants or paints to cover wounds or cuts on trees. Research shows this practice is often unnecessary or even harmful, as it can trap moisture and promote decay.
Pollard
A pruning technique where the upper part of a young tree is removed to encourage multiple stems from a single point. Traditionally used for producing wood or fodder, pollarding requires regular maintenance.