SELWYN TREES

ARBORICULTURAL CONSULTANTS

Full Tree Survey with Condition Report & Risk assessment

Survey for trees at the site:	Woodland to rear of 75-111 Roehampton Rise, Barnsley
Prepared for:	Barnsley Metropolitan Borough Council
Reference	**Tree Survey 0333**
Date:	6th December 2022
Surveyor(s)	Miss R D Selwyn BSc (Hons) Arboriculture and Urban Forestry, MArborA Mr S Selwyn Dip Arb L4 (ABC)

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QTRA Registered User

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1.0 INTRODUCTION

1.1 Selwyn Trees were engaged to inspect trees present in an area of woodland to the north of Roehampton Rise, Barnsley to assess the general condition and safety of the trees following major recent development works to a nearby retaining wall. We visited the site on the 24th of November 2022 and on the 2nd of December 2022. The weather on the day(s) of the site visit was mostly dry.



Figure 1: Snapshot taken from Google Earth, showing the site position. © Google Earth

Navigating through the report

1.2 After this introduction and Section 2, 'Scope of the report', a survey key is displayed in section 5 illustrating what data is collected and presented. Tree data collected on the site visit survey are presented in table format in chapter 6. Conclusions are presented in section 7 and include a summary of any remedial works recommended with timescales and any other comments on the site. Pictures are presented in Appendix 1 and a tree location map is presented in Appendix 7.

1.3 Along with the tree location map, land managers and tree work contractors should refer to section 7 of the report to plan tree maintenance.

1.4 For individuals unfamiliar with Arboricultural surveys and reports, detailed guidance can be found within the Appendices:

- Appendix 1- Shows photographs of the site which focus on any recommended work.
- Appendix 2- explains how the survey was carried out.
- Appendix 3- is background QTRA parameters
- Appendix 4- provides a Glossary of all technical terms used throughout the report.
- Further information is provided in Appendix 6 and a tree map site plan is provided in Appendix 7.

1.5 All persons should refer to Appendix 7 site plan for help with tree location.

2.0 SCOPE OF REPORT

2.1 The scope of the report was to carry out a walk-around inspection of some trees in the woodland, that were close to a recent development area. We were directed to look at two specific trees that the owner of a neighbouring property had expressed concerns with due to the leaning towards the properties. We did not inspect all trees in the woodland area. The purpose of this report is to assess the condition, safety, and risks of trees owned by the client in relation to people, properties, and other targets. This report allows the client to fulfil their duty of care for trees in their ownership. Statute law does not require a tree owner or those responsible for trees to maintain completely safe trees, the tree owner is only required "to take reasonable care".

2.2 The scope included providing management recommendations to mitigate any risks identified and if necessary to recommend further investigation or inspections. The priority for any recommended work and the next inspection date for trees is also provided.

2.3 The report was compiled by Rachel Selwyn BSc (Hons) Arboriculture and Urban Forestry, who has 7 years of experience working for Selwyn Trees and is a professional member of the Arboricultural Association and checked by Sam Selwyn Dip Arb L4 (ABC) who has 10 years of experience in practical tree management working as an arborist.

3.0 CAVEATS AND LIMITATIONS

3.1 The inspection was carried out from a ground level using the Visual Tree Assessment method. Should a more detailed climbed inspection be required this will be highlighted in the recommendation. Digital Decay Scanning Software was not available for use. Digital Detection Software can be commissioned on request. Assessing the condition of structures or drains, and inspecting for tree roots within drains, are all beyond the scope of this report. If there are concerns relating to structural damage to buildings, walls or drains, an appropriate structural engineer and drain surveyor must be sought.

3.2 This report includes an evaluation of the tree(s) on the day the site visit was made. Where access was limited, measurements were estimated.

3.3 No soil samples were taken.

3.4 Any legal descriptions stated or given by the consultant are understood to be accurate.

3.5 Selwyn Trees will not assume responsibility for legal matters that arise from this survey, and will not be required to act as a legal witness to give testimony or attend court unless agreed arrangements are subsequently made.

3.6 The Arboricultural survey is valid only for typical weather conditions. Healthy trees, or parts of healthy trees, may fail at any time. Structural failures occur when the stresses due to the forces acting on a tree exceed the strength of the tree structure or the tree–soil connection supporting the tree. Even a structurally strong tree, free of defects, will fail when a load is applied that exceeds the load-carrying capacity of one or more of its parts. Most tree structural failures involve a combination of structural defects or conditions, such as the presence of decay or poor structure and an unusual or extreme loading event, such as strong wind. Every effort has been made to identify defects or hazards but no guarantee can be given for their individual safety. Healthy trees may fail in unusually high or unpredictable winds or violent storms and as the consequences of such weather phenomena are unforeseeable, Selwyn Trees cannot be held liable for any such failures.

3.7 Trees are changeable organisms; their health and condition can change rapidly due to their dynamic nature and other site conditions. Therefore, **this report is only valid for the 12-month period** from the date of the site survey.

3.8 Land managers are responsible for any work on surveyed trees.

3.9 Where similar trees are growing in large groups, their height and diameter may be estimated. Where trees are young their measurements may be denoted as 'young.

3.10 I have not contacted the local planning authority to determine whether any Tree Preservation Order (TPO) covers any of the trees.

3.11 I did not inspect any part of the drainage or service systems on the site as I am not qualified to do so.

4.0 SITE DESCRIPTION

4.1 The site consists of an area of woodland Recent major development works to a nearby retaining wall have been carried out in this woodland area north of Roehampton Rise in Barnsley. Several trees were removed to facilitate the repairing of the retaining wall due to the impact of excavating on the tree roots. The removal of these trees has resulted in some remaining trees now being exposed to wind loading.

4.2 The woodland is protected by a woodland TPO therefore any further tree work will require an application and consent from the Local Authority.

QTRA (Quantified Tree Risk Assessment)

4.4 To assess the safety of the tree and the likelihood of future failure, we calculated a QTRA (Quantified Tree Risk Assessment) score for relevant trees. The QTRA method provides a framework for the assessment of the three primary components of tree risk failure; Target, Size and Probability of Failure.

4.5 Common targets include properties, pedestrians, parked vehicles and moving vehicles. Therefore, for relevant trees, a QTRA score has been calculated for each relevant target. This may result in an individual tree having different Risk of Harm probabilities depending on the risk to a particular target. In such cases, the highest risk score is used as the overall tree calculated risk of harm.

4.6 The QTRA Risk of Harm calculation classifies the probability of Risk of Harm using a traffic light system of Advisory Risk Thresholds, as follows:

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

5.0 TREE SURVEY DETAILS & KEY FOR TREE INSPECTION DATA

5.1 The data schedule following this page summarises the data collected on the site. The tree survey was undertaken by Rachel Selwyn. The survey was carried out using the VTA method from the ground level. No decay detection equipment was used or soil samples were taken. Trees that are of similar type and condition growing close together may be denoted as groups. Hedges were also described as groups.

Tree inspection data is presented in table form for ease of reference. The image below is a snapshot of the table with descriptions.

Appendix 4 contains a glossary of technical terms used throughout the report.

Ref. no (Tree number)	**Species**	**Height (m)**	**Spread (m)**	**Age Class (Four categories)**	**Tree Condition**		**Comments**	**Recommendations**	**Informed by Risk Rating**		**QTRA Score**
					Physiological	**Structural**			**Work Priority**	**Inspection Frequency**	
A number is assigned to the tree to identify it.	Tree species are detailed by their common name and scientific name where appropriate	Height is estimated to be the nearest metre.	Estimated crown spread diameter in metres.	**Young**- Staked or recently established tree at the fast early growing stage of establishment. **Semi-mature**- in the middle third of normal life. **Mature**- in the final third of normal life expectancy. **Over mature**- in natural decline.	The physiological condition provides some evidence of the general well-being of the tree. Assessed by comparison of growth characteristics with similar species in the locality and/ or from personal experience. Three categories for each: **Good-** No significant defects were noted in either Physiological or structural conditions. **Fair-** Physiological and/or structural condition slightly compromised. **Poor-** Physiological and/or structurally condition significantly compromised.	A structural assessment notes any defects such as the presence of decay, physical defects	Observations and comments.	Details remedial works required to improve immediate safety or improve the management of the trees. For example, remove: Minor deadwood = <25mm diameter Moderate deadwood =25-50mm diameter Major deadwood = >50mm diameter	Guidance for time scale expressed in months and years from the report date in which works should be completed.	Guidance for the frequency of inspection on a particular tree. **Very high**- 6 month **High**- 12month **Moderate**- 18month **Very low**- 5 year **None**- No target exists or is excluded.	Quantified Tree Risk Assessment (QTRA) calculation Please see Appendix 3 for details

Key terms

- ASAP- as soon as possible
- N/A – Not applicable
- < less than symbol
- > greater than symbol

6.0 TREE INSPECTION FINDINGS

Ref. no	Species	Height (m)	Spread (m)	Age Class	Tree Condition		Comment	Recommendations	Informed by Risk Rating		QTRA Calculation & Score
					Physiological	Structural			Work Priority	Inspection Frequency	
Newly exposed woodland edge trees- QTRA assessment											
T683	Sycamore *Acer pseudoplatanus*	9m	4m	Semimature	Fair	Fair	Target: Neighbouring residential dwellings • Crown extends almost completely over the neighbouring property. • The tree has a group edge structure., • A strip of missing bark is present on the main stem extending into the crown. I was informed by residents that the tree lost its leaves early, and the tree has possibly declined suddenly or just lost its leaves due to the very hot summer. • A depression is present on the south side of the main stem, at an attachment point of an epicormic stem. No acoustic variation was heard when the stem was tapped with a sounding mallet, indicating we could not hear significant hollowness or decay in the area. • Very unbalanced crown. • The tree is very exposed to winds now neighbouring trees have been removed. The tree may be vulnerable to failure due to this sudden exposure to wind loading. As it has an 'edge-tree' structure it is also unbalanced which is not optimal for counter-acting the increased wind loading. Therefore, the tree may be vulnerable to failure. • A QTRA score has been calculated to assess the probability of failure	Fell to a low stump as the QTRA Risk of Harm was calculated as 1/10K which is in the unacceptable region.	Within 12 months	n/a	**Target:** Range 2 **Size:** Range 2 **Probability of failure:** Range 3 **Calculated Risk of harm:** **1/10K** = **Unacceptable** **Action required**
T684	Oak	10m	5m	Semi-mature	**Good**	Fair	Target: Neighbouring residential dwellings • Crown is extending completely towards neighbouring property. The tree is going to be exposed to southwestern prevailing winds due to neighbouring trees being removed. • The Crown is unbalanced and vulnerable to increased wind loading due to the recent exposure. • No mounding in the soil is present. • The tree is very exposed to winds now neighbouring trees have been removed. The tree may be vulnerable to failure due to this sudden exposure to wind loading. As it has an 'edge-tree' structure it is also unbalanced which is not optimal for counter-acting the increased wind loading. Therefore, the tree may be vulnerable to failure. • A QTRA score has been calculated to assess the probability of failure	Fell to a low stump as the QTRA Risk of Harm was calculated as 1/10K which is in the unacceptable region.	Within 12 months	N/A	**Target:** Range 2 **Size:** Range 2 **Probability of failure:** Range 3 **Calculated Risk of harm:** **1/10K** = **Unacceptable** **Action required**

Ref. no	Species	Height (m)	Spread (m)	Age Class	Tree Condition		Comment	Recommendations	Informed by Risk Rating		QTRA Calculation & Score
					Physiological	Structural			Work Priority	Inspection Frequency	
T685	Oak	N/A	N/A	N/A	N/A	N/A	T685 Planned to be removed due to wall construction work and disturbance to the rooting area.	N/A	N/A	N/A	N/A

Other trees in the woodland area:

Ref. no	Species	Height (m)	Spread diameter (m)	Age Class	Tree Condition		Comment	Recommendations	Informed by Risk Rating	
					Physiological	Structural			Work Priority	Inspection Frequency
T686	Sweet chestnut *Castanea sativa*	7m	7m	Semi-mature	Poor	Poor	Target: Footpath • Low hanging branches over the footpath. Major deadwood on the west side. No significant high-risk targets • Major stem decay on the northwest side at the base. • Inonotus hispidus fungi in leaf litter on the northwest side but it is unclear where this has come from.	Remove deadwood over the footpath.	2 years	Moderate 2 years
T687	Ash *Fraxinus excelsior*	15m	7m	Mature	Fair	Fair	Location: Woodland Target: Footpath • Moderate to major deadwood over the footpath. The footpath is low occupancy, therefore, is a low-risk target. • Minor deadwood on the west side. • Upright structure.	No work recommended	N/A	Moderate
T688	Sycamore *Acer pseudoplatanus*	15m	5m	Mature	Fair	Fair	Target: Footpath and neighbouring garden if the root plate were to fail. • Three areas of Kretzschmaria deusta fungi were found at the tree base in	Remove the tree to a low stump.	2 Years	N/A

Ref. no	Species	Height (m)	Spread diameter (m)	Age Class	Tree Condition		Comment	Recommendations	Informed by Risk Rating	
					Physiological	Structural			Work Priority	Inspection Frequency
							between buttresses. This fungus is attributed often to the ceramic-like failure of trees at the butt and lapsed pollard heads. • Numerous bark scars on the main stem • Exposed wood on the west side • Root damage at base observed- spongy when probed.			
T689	Ash *Fraxinus excelsior*	N/A	N/A	N/A	N/A	N/A	On a site visit on 2/12/2022, this tree had been removed.	N/A	N/A	N/A
T690	Ash *Fraxinus excelsior*	19m	9m	Mature	Good	Good	• Mulch chippings around the base. • Good structure. • Moderate deadwood in the inner canopy.	No work is recommended.	N/A	Moderate
T691	Ash *Fraxinus excelsior*	17m	7m	Mature	Good	Good	• Moderately colonised by ivy • Lots of seed pods	Sever and remove a 1m band of ivy at the tree base.	1 year	Moderate
T692	Sycamore *Acer pseudoplatanus*	12m	4m	Semi-mature	Fair	Fair	• Edge structure • Future growth can be expected • Bark scarring and exposed present on the main stem west side – old • Potential mycelium observed at the base of the tree • No acoustic variation was heard when the main stem tapped with a sounding mallet.	No work is recommended.	N/A	Low
T693	Sycamore *Acer pseudoplatanus*	14m	4m	Semi-mature	Fair	Poor	• Suspected Kretzschmaria deusta fungi at the base, with two significant areas on the southeast and east sides. This fungus is attributed often to the ceramic-like failure of trees at the butt and lapsed pollard heads. • Exposed wood is also on the south side. • Significant Exposed wood from 40cm and extending upwards for around 2-5m on the south.	Remove the tree to a low stump.	2 years	N/A

Ref. no	Species	Height (m)	Spread diameter (m)	Age Class	Tree Condition		Comment	Recommendations	Informed by Risk Rating	
					Physiological	Structural			Work Priority	Inspection Frequency
T694 A tree group.	A tree group	Average 15m	N/A	Dead	Poor	Poor	Location: Woodland opposite T692 and T693 • A group on the north side of the path consisting of 2x dead standing trees, and a twin-stemmed Sycamore. One stem is completely dead. • No significant high-risk targets	No work is recommended. Leave as standing deadwood for wildlife habitat.	N/A	Low
T695	Sycamore *Acer pseudoplatanus*	13m	5m	Mature	Good	Fair	Location: north side of the path • Leaning southwest • Mulch piled around the base. • Leaning for light • Ivy present • Vitality good	No work is recommended.	N/A	Low
T696	Sycamore *Acer pseudoplatanus*	9m	5m	Semi-mature	Good	Fair	• Multiple areas of missing bark on all sides of the main stem, and dead bark as well. • Bleeding and oozing are also present on the main stem. Some adaptive growth around bark wounds, some not. • Sheltered, growing underneath the neighbouring tree.	No work is recommended. Monitor the tree for changes or progression of bleeding and oozing on the main stem	N/A	Moderate
T697	Ash *Fraxinus excelsior*	17m	8m	Mature	Good	Good	• Moderate deadwood in crown • Relatively spreading crown • Union appears okay	No work is recommended.	N/A	Moderate
T698	Ash *Fraxinus excelsior*	17m	8m	Mature	Good	Good	• Ivy clad • Edge tree structure • Branches reach the boundary. • Moderate deadwood in the crown. • Crown is all extending south	Sever a 1m band of ivy all the way around the tree from ground level.	1 year	Moderate
T699	Elm *Ulmus procera*	12m	8m	Mature	Fair	Fair	• Significantly leaning for light towards neighbouring properties. • Hanging dead branch in the crown, from neighbouring Ash • Ivy present • Burrs present on the main stem • Crown is all extending south	Sever a 1m band of ivy all the way around the tree from ground level.	1 year	Moderate

Ref. no	Species	Height (m)	Spread diameter (m)	Age Class	Tree Condition		Comment	Recommendations	Informed by Risk Rating	
					Physiological	Structural			Work Priority	Inspection Frequency
T700	Ash *Fraxinus excelsior*	20m	10m	Mature	Fair	Fair	• Suspected *Cerioporus squamosus fungi* on the northeast side at the base. Multiple fruiting bodies in this area. This wood decay fungus causes cavity formation. • Inonotus hispidus fungi are also present on the north side at 10m. Some degree of decay is present in the main stem at this point. A failure may occur in this area but there are no significantly high-risk targets currently • A major dead branch on the southeast side and the south side over the path. • Good buttress flare. Girdling root observed.	Monitor the tree for fungi progression and possible instability as decay at the base may progress.	N/A	High
T701	Lime *Tilia* x *europaea*	15m	6m	Semi-mature	Good	Good	• Understory tree • Leans towards neighbouring properties. Future growth can be expected • Hanging dead branch on the west side • Base good.	No work is recommended.	N/A	Moderate
T702	Beech *Fagus sylvatica*	11m	7m	Mature	Good	Fair	• Twin stemmed at 1.4m. The largest of the two extends towards neighbouring properties • Exposed wood present. • Significant adaptive growth. • Not particularly tall. Growing for light.	No work is recommended.	N/A	Moderate
T703	Ash *Fraxinus excelsior*	20m	5m	Semi-mature	Fair	Fair	Location: Directly adjacent to the path. • Upright tall woodland structure. • Good buttress. • Inonotus hispidus fungi bracket in leaf litter – uncertain where this has come from- possibly a neighbouring tree.	No work is recommended.	N/A	Moderate
T704	Ash *Fraxinus excelsior*	16m	4m	Semi-mature	Fair	Fair	Target: No significant high-risk target • Large Inonotus hispidus fungi bracket on the south side at 3.5m. Some degree of decay is present in the main stem at these points. A failure may occur in this	No work is recommended.	N/A	High

Ref. no	Species	Height (m)	Spread diameter (m)	Age Class	Tree Condition		Comment	Recommendations	Informed by Risk Rating	
					Physiological	Structural			Work Priority	Inspection Frequency
							area but there are no significantly high-risk targets currently • Not particularly tall. • Minor deadwood present.			
T705	Ash *Fraxinus excelsior*	20m	5m	Sem-mature	Fair	Fair	Location: north side of the path • Large Inonotus hispidus fungi brackets in leaf litter. • The attachment point is likely on the south side at 4-5-5m Moderate to major deadwood is present in the centre of the crown. • Woodpecker holes are also visible extending up the stem. Some degree of decay is present in the main stem at these points. A failure may occur in this area but there are no significantly high-risk targets currently	No work is recommended. Monitor for changes in tree condition and check for a decline.	N/A	High
T706	Elm *Ulmus procera*	13m	5m	Sem-mature	Good	Good	Location: Directly adjacent to the path. • Relatively young, future growth can be expected.	No work is recommended.	N/A	Moderate
T707	Ash *Fraxinus excelsior*	17m	7m	Semi-mature	Fair	Fair	• Tall woodland tree with edge structure • Minor deadwood in the upper crown, extending towards neighbouring properties.	No work is recommended.	N/A	Moderate
T708	Ash *Fraxinus excelsior*	20m	5m	Mature	Fair	Fair	• Inonotus hispidus fungi bracket on the southeast side at 6m. • Multiple Inonotus hispidus fungi brackets in leaf litter surrounding the tree. • Further attachment points of the Inonotus hispidus fungi were observed in the crown. Some degree of decay is present in the main stem at these points. A failure may occur in this area but there are no significantly high-risk targets currently • Lots of seed pod production observed	No work is recommended.	N/A	High

Ref. no	Species	Height (m)	Spread diameter (m)	Age Class	Tree Condition		Comment	Recommendations	Informed by Risk Rating	
					Physiological	Structural			Work Priority	Inspection Frequency
T709	Ash *Fraxinus excelsior*	20m	6m	Mature	Fair	Fair	Location: Situated next to the path on the north side • Significant buttress roots. • Scars are present on the south side at 5-6m and depressions, this is possibly where Inonotus hispidus fungi are present and fungi brackets have been attached. A failure may occur in this area but there are no significantly high-risk targets currently	No work is recommended. Monitor for changes in condition.	N/A	High
T710	Ash *Fraxinus excelsior*	7m	8m	Semi-mature	Fair	Poor	• The top section of the crown has completely failed and collapsed into the neighbouring tree- a major failure. • No major high-risk targets	Remove the hanging branch section.	5 years	Moderate
T711	Ash *Fraxinus excelsior*	20m	10m	Mature	Fair	Fair	• Inonotus hispidus fungi bracket on the south side at 5m • Another Inonotus hispidus fungi bracket and 3m and at 5.5m. • A failure may occur in these areas where the fungi brackets are present but there are no significantly high-risk targets currently • Large relatively recent pruning wounds • A major dead branch on the south side • A neighbouring tree stem has failed into this tree • Large relatively recent pruning wounds on the south and southwest side of the main stem at 3m.	No work is recommended.	N/A	High
T712	Ash *Fraxinus excelsior*	20m	7m	Mature	Good	Good	• Crown extending towards properties. • Edge tree structure high crown.	No work is recommended.	N/A	Moderate
T713	Elm *Ulmus procera*	13m	5m	Semi-mature	Fair	Fair	Location: Next to the path Targets: No high-risk targets • Understory tree • Multiple scars on the main stem throughout on all sides up into the crown.	No work is recommended.	N/A	Moderate

Ref. no	Species	Height (m)	Spread diameter (m)	Age Class	Tree Condition		Comment	Recommendations	Informed by Risk Rating	
					Physiological	Structural			Work Priority	Inspection Frequency
T714	Ash *Fraxinus excelsior*	20m	8m	Mature	Good	Fair	• Significant adaptive growth on the main stem. • Lion-tail branch is present on the south side.	No work is recommended.	N/A	Moderate
T715	Ash *Fraxinus excelsior*	20m	10m	Mature	Fair	Fair	Location: north side of the path. The tree is situated on the opposite side of the path to T713 • Moderate deadwood over the path.	No work is recommended.	N/A	Moderate
T716	Ash *Fraxinus excelsior*	20m	5m	Semi-mature	Fair	Fair	• Leaning significantly east/ southeast. • Moderate deadwood in the crown. • Very high crown with virtually no lower branches. • Cavity on the north side at 2.5-3m.	No work is recommended. Monitor for changes in the condition.	N/A	Moderate
T61 retagged as T717	Lime *Tilia* x *europaea*	11m	6m	Semi mature	Good	Good	• A large wound on the main stem on the northwest side. • Future growth can be expected. • Major hanging dead branch.	No work is recommended. Monitor for changes in the condition.	N/A	Moderate
T718 was T62	Beech *Fagus sylvatica*	9m	4m	Young	Good	Good	• Relatively young. • Understory.	No work is recommended.	N/A	Moderate
T719- was T63	Ash *Fraxinus excelsior*	20m	8m	Mature	Good	Fair	• Inonotus hispidus fungi on the northwest side of the main stem at 6.5m. • An area of scarring above the Inonotus hispidus fungi bracket is present. • Possible decay extends upwards from this area. A failure may occur in these areas where the fungi brackets are present but there are no significantly high-risk targets currently • Recent branch removal has occurred on the south side of the main stem.	No work is recommended.	N/A	High
T720- was T64	Sycamore *Acer pseudoplatanus*	18m	7m	Mature	Good	Good	• Epicormic growth around the base. • A clump of holly and cherry nearby.	No work is recommended. Monitor for changes in the condition.	N/A	Moderate
T721- was T65	Sycamore Acer pseudoplatanus	20m	10m	Mature	Good	Good	• Epicormic growths around base • Tall-grouped woodland tree.	No work is recommended.	N/A	Moderate

Ref. no	Species	Height (m)	Spread diameter (m)	Age Class	Tree Condition		Comment	Recommendations	Informed by Risk Rating	
					Physiological	Structural			Work Priority	Inspection Frequency
T722 was T66	Ash *Fraxinus excelsior*	20m	10m	Mature	Fair	Fair	Location- Next to the footpath on the south side. Low-frequency target. • Major dead sections in the crown, but the tree is in a low-risk target area • Cavity on the south side at 3.5m • Girdling roots, distorted structure growing for light. Quite tall.	No work is recommended.	N/A	High
T723	Ash *Fraxinus excelsior*	17m	7m	Mature	Fair	Fair	Location- Woodland tree growing in a sheltered position. • Multiple tiered fungi brackets at 2m southwest on the main stem. We believe these are Inonotus hispidus fungi brackets, but this is not confirmed. This fungi decays wood and can cause a brittle failure. • A large area of depression in the wood is present above the fungi which are consistent with Inonotus fungi. • Inonotus hispidus fungi bracket is also present on the southwest side at 6m • The Crown is distorted south	Monitor for future fungi spread and progression of decay	N/A	High

I hope you find this report satisfactory, please do not hesitate to contact me at my office if I can be of further assistance.

Report compiled by:

Rachel Selwyn

Signed…… Date 6/12/2022

Report checked by:

Sam Selwyn

Signed…… Date 6/12/2022

APPENDIX 1- SITE PHOTOS



Photo 1



Photo 2



Photo 3: Kretzschmaria deusta fungi at the base of T688

APPENDIX 2: SURVEY METHODOLOGY

A. 2.1 A ground-level visual survey was carried out using the Visual Tree Assessment technique described by Mattheck and Broeler (1994) and endorsed by the Arboricultural Association (LANTRA Professional Tree Inspection course, 2007).

A 2.2 Physiological condition was assessed visually using bud formation and branch dieback indicators. The overall vigour of the tree was also taken into account.

A 2.3 Structural condition was assessed by inspecting the stem and scaffold branches from all angles looking for weak branch junctions or symptoms of decay. Particular attention was paid to the stem base. Cavities were explored using a metal probe and nylon-sounding mallet to assess the extent of any decay. If this was not possible further inspection was recommended in the form of a climbed inspection or using specialist decay detection equipment.

A 2.4 The physiological condition was assessed by inspecting the stem, branches and foliage for disease symptoms.

A 2.5 Where the condition of a tree was deemed to be unacceptable, recommendations were made according to a scale of priority to reduce the liability of the owner. The position of the tree and its potential targets were taken into account. Recommendations use compass bearings and metres for the amount to be removed.

A 2.6 Measurements were taken using diameter tape, and laser height measurement and estimated where it wasn't practical to physically measure.

APPENDIX 3: QTRA PARAMETERS **(QUANTIFIED TREE RISK ASSESSMENT)**

A. 3.1 To assess the safety of the tree and the likelihood of future failure, we calculated QTRA (Quantified Tree Risk Assessment) scores for relevant trees close to targets. The QTRA method provides a framework for the assessment of the three primary components of tree risk failure; Target, Size and Probability of Failure.

A.3.2 For the trees surveyed, the common targets present are properties, pedestrians, parked vehicles and moving vehicles. Therefore, for relevant trees, a QTRA score has been calculated for each relevant target. This may result in an individual tree having different Risk of Harm probabilities depending on the risk to a particular target. In such cases, the highest risk score is used as the overall tree calculated risk of harm.

A.3.3 The QTRA Risk of Harm calculation classifies the probability of Risk of Harm using a traffic light system of Advisory Risk Thresholds, as follows:

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

The following are the parameters used when compiling QTRA calculations:

Size Range:

The size of the branch or tree that would come into contact with the target. The size range is a standard value when **property** is the target.

Size Range	Size of tree or branch
1	> 450mm diameter
2	450mm- 260mm diameter
3	250mm-110mm diameter
4	100mm-25mm diameter

Target:

In the assessment of targets, **six ranges of values** are available.

Target Range 1 is the highest value target range and includes: between £2M - > £200 000 in property repair or replacement cost; between **constant – 2.5 hours per day of human occupation**, and **between 4,800-47 000 vehicles** passing through the target zone per day travelling at 32mph.

Target Range 2 describes between £200,000 - >£20,000 in property repair replacement cost; between 2.4 hours/day – 15 min/day of occupation; between 72/hour- 8/hour pedestrians or cyclists within the target zone; and between 4700-480 vehicles per day travelling at 32mph.

Target Range 3 describes between £20,000 ->£2,000 in property repair replacement cost; between 14 min/day – 2 min/day of occupation; between 7/hour-2/hour pedestrians and cyclists, and between 470-48 vehicles per day travelling at 32mph.

Target Range 4 describes between £2,000 ->£200 in property repair replacement cost; between 1 min/day – 2 min/week of occupation; between 1/hour-3/day pedestrians and cyclists, and between 47-6 vehicles per day travelling at 32mph.

Target Range 5 describes between £200 ->£20 in property repair replacement cost; between 1 min/week – 1 min/month of occupation; between 2/day -2/week pedestrians and cyclists, and between 5-1 vehicles per day travelling at 32mph.

Target Range 6 is the lowest value target range and describes between £20 -£2 worth of property repair or replacement cost; between 1 pedestrian a week to 6 pedestrian a year occupying the target zone for 1 minute a month to 1 minute a year; and no vehicular traffic within the target zone.

Probability of Failure:

Requires the assessor to consider the structural state of the tree or branch and the environmental conditions the tree is exposed to. Probability of Failure **Range 1** is a **branch or tree that is certain to fail** within the next year (greater than 1/10 chance of failing). Probability of Failure **Range 7** is considered the **benchmark for a structurally acclimatised tree** (this describes a tree or branch that has between a 1/1 Million and 1/ 10 Million probability of failing within the next year):

Probability of Failure Range	Probability of Failure
1	1/1 ->1/10
2	1/10 ->1/100
3	1/100 ->1/1000
4	1/1,000 ->1/10,000
5	1/10,000->1/100,000
6	1/100,000 -> 1/1,000,000
7	1/1,000,000 – 1/10,000,000

The Probability that the tree or branch will fail within the coming year

APPENDIX 4: GLOSSARY OF TERMS

Aboriculture	The culture of trees singly or in small groups
Arborist	Alternative term for tree-work contractor, now sometimes used (following usage in the US) to include other arboriculturists.
Adaptive growth	The growth of new wood in response to a stress concentration in the structure of a tree.
Branch collar	Where a branch joins another branch or trunk that is created by the overlapping vascular tissues from both the branch and the trunk. Typically enlarged at the base of the branch.
BS 3998:2010	The British Standard regulating some of the technical operations carried out by a tree surgeon.
Cabling	Installation of steel or synthetic cable in a tree to provide supplemental support to weak branches or crotches.
Callus	The undifferentiated tissue developing in response to a wound, in trees soon becoming woody (wound wood).
Crotches	Branch union or fork
Cavity	A void in a woody stem or root that may or may not be open to the exterior, generally created by decay and excavated to some extent by saproxylic animals.
Co- dominate stem	Forked branches nearly the same size in diameter, arising from a common junction and lacking a normal branch union.
Crown/ Canopy	The branches, shoots and foliage of a tree, considered collectively. The shape of the crown is partly determined by growth habit, partly by site factors.
Crown lift	The removal of lower branches of a tree, whether complete branches or those arising from the lower limbs, to increase the headroom to the base of the crown.
Crown reduction	A form of pruning in which the extent of the crown is decreased without (primarily) decreasing its density, to reduce loading, balance the crown, mitigate a nuisance etc.
Deadwood	Dead and decomposing wood including dead trees (whether standing, snapped or fallen), branches of any size, stumps and roots.
Decay	The progressive decomposition of wood caused by specialized fungi, which consume it as a food source. The main modes of decay are white rot, brown rot, simultaneous rot and soft rot outdoors, and wet rot and dry rot in wood in service.
Defect	Any feature of a tree that is likely to make it less safe (in the case of a structural defect) or otherwise to reduce its health, longevity, landscape prominence or conservation value for any other reason.
Epicormic shoots	Shoots arising from dormant buds in a tree's main stem or framework branches.
Formative pruning	Pruning of young trees to modify their form at maturity, either to avoid future structural defects (for instance by singling a twin-stem) or to create a desired cultivated tree form.
Fungus	Group of organisms from the kingdom Fungi, including yeasts, molds, mushrooms, and smuts. Typically multicellular, saprophytic, or parasitic and

	lacking vascular tissue and chlorophyll. Reproduces by spores borne in fruiting bodies
Girdling root	Woody roots may strangle each other if they cross each other or are tangled at outplanting, when they remain fixed in this configuration.
Included Bark	Areas of bark on adjacent parts of a tree, typically on the inner faces of a narrow fork, which become grown over to occupy part of the internal joint.
Limb	Large primary branch of a tree
Lion tail pruning	Poor pruning practice in which an excessive number of branches are thinned from the inside and lower part of specific limbs or a tree crown, leaving mostly terminal foliage. Results in poor branch taper, poor wind load distribution, and a higher risk of branch failure.
Mycelium	Vegetative body of a fungus. Network of branched, fungal filaments (hyphae)
Mycorrhizae	Symbiotic association between certain fungi and the roots of a plant.
Pollarding	Specialty pruning technique in which a tree with a large-maturing form is kept relatively short. Starting on a young tree, internodal cuts are made at a chosen height, resulting in the development of callus knobs at the cut height. Requires regular (usually annual) removal of the sprouts arising from the cuts.
Prune/pruning	Removing branches (or occasionally roots) from a tree or other plant using approved practices, to achieve a specified objective.
Reaction wood	Wood formed in leaning or crooked stems or on lower or upper sides of branches as a means of counteracting the effects of gravity.
Ring bark	To cut a ring of bark from a woody stem down to the vascular cambium (ie. entirely severing the phloem), so that transport from the aerial part to the roots is largely prevented.
Root collar	Flared area at the tree trunk base where the roots and trunk come together.
Root zone	(1) horizon or layer within the soil profile where roots exist. (2) volume of soil containing tree roots. (3) horizontal spread of tree roots from the trunk.
Sail area	The area of a tree's aerial part that intercepts wind, broadly varying with wind direction, leafiness etc.
Soil compaction	Compression of the soil, often as a result of vehicle or heavy-equipment traffic, that breaks down soil aggregates and reduces soil volume and total pore space, especially macropore space.
Sonic tomography (SOT)	The use of multiple sensors placed around a trunk or limb to record sound waves traveling through the wood, with measurements resulting in a picture of internal density characteristics. Typically used to measure the extent of decay.
Soft rot	Decay of plant tissues characterized by the breakdown of tissues within the cell walls.
Subsidence	Broadly, the downward movement of ground and an affected foundation influenced by soil properties, weather, foundation depth and nearby vegetation.
Sucker	Shoot arising from the roots
Suppressed growth	A tree shaded, overtopped or otherwise dominated by neighbouring trees, so that its vigour is low and its form is often distorted. Individual branches may also become suppressed.
Topping	Inappropriate pruning technique to reduce tree size, cutting back a tree to a predetermined crown limit, often at internodes. Topping often results in fast

	growing emergency shoots from the pruning wounds. These shoots grow quicker than normal growth, therefore the tree does not assign the same amount of strengthening wood as it would under normal growing conditions. They also often form tight unions, in which decay can develop. Hence such growth can be weakly attached, and as they become larger and heavier, these branches formed from topped areas can have an elevated risk of failure.
Vigour	Overall health. Capacity to grow and resist stress.
VTA	Method of assessing the structural integrity of trees using external symptoms of mechanical stress (such as bulges, reactive growth, etc) and defects (cracks, cavities, etc).
White rot	Fungal decay of wood in which both cellulose and lignin are broken down.
Windthrow	The fall of a tree in a high wind, with the breakage of the outer roots, so that the tree is uprooted.
Wound wood	In woody stems, the new wood developing in response to a wound, often resulting in swelling (as round a pruning wound) which gradually occludes the wound.

References

- 'A-Z of tree terms: A companion to British arboriculture' Third edition- Philip Wilson.
- ISA Certified Arborist study guide.
- "Diagnosis of Ill health in Trees" Strouts & Winter, Third edition, Forestry Commission, (2013)
- BS5837:2012 'Trees in relation to Design, Demolition and Construction -Recommendations'
- "Principles of Tree Hazard Assessment and Management", Lonsdale, Third edition, Forestry Commission (2017)
- https://nhbc-standards.co.uk/4-foundations/4-2-building-near-trees/4-2-4-the-effects-of-trees-on-shrinkable-soils/
- https://nhbc-standards.co.uk/4-foundations/4-2-building-near-trees/4-2-7-foundations-in-shrinkable-soils/
- The Body Language of Trees- Encyclopaedia of Visual Tree Assessment (Mattheck, C) 2015

APPENDIX 5: AUTHOR'S QUALIFICATIONS AND EXPERIENCE

Miss Rachel Selwyn BSc (Hons) Arboriculture and Urban Forestry, MArborA, QTRA registered.

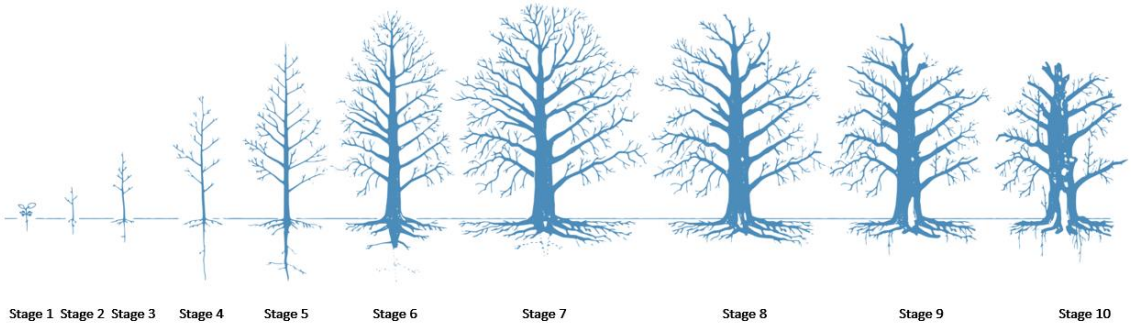
Rachel is a consultant at Selwyn Trees and has 7 years of experience working in the role. She has a BSc (Hons) degree in Arboriculture & Urban Forestry from the University of Central Lancashire. She is a professional member of the Arboricultural Association and is a registered user of the Quantified Tree Risk Assessment methodology. Her work ranges from detailed tree assessment using specialist technology to producing a range of tree reports for development projects and providing tree protection solutions to BS5837 standards.

Mr Sam Selwyn Dip Arb L4 (ABC), ISA Certified arborist, TecharborA

Sam has over ten years of experience working as a climbing arborist and is certified by the International Society of Arboriculture. He has the Level 4 Diploma in Arboriculture, is a technical member of the Arboricultural Association and has the Lantra Professional Tree Inspection (PTI) qualification. Sam prepares reports for development sites and undertakes aerial inspections of trees. He also assists with undertaking condition surveys and detailed tree assessments using specialist technology.

APPENDIX 6: FURTHER INFORMATION

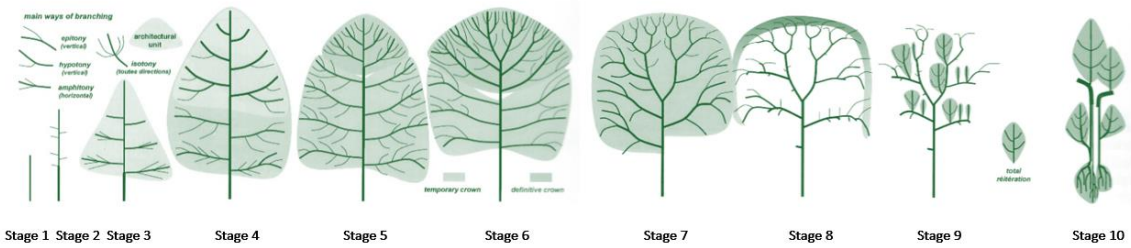
Morpho-physiological stages of development: Developmental stages of (a) aerial & root systems through the ageing process corresponding to (b) trunk decay habitat (after Raimbault 1995; Lonsdale 1999; Fay 2002)

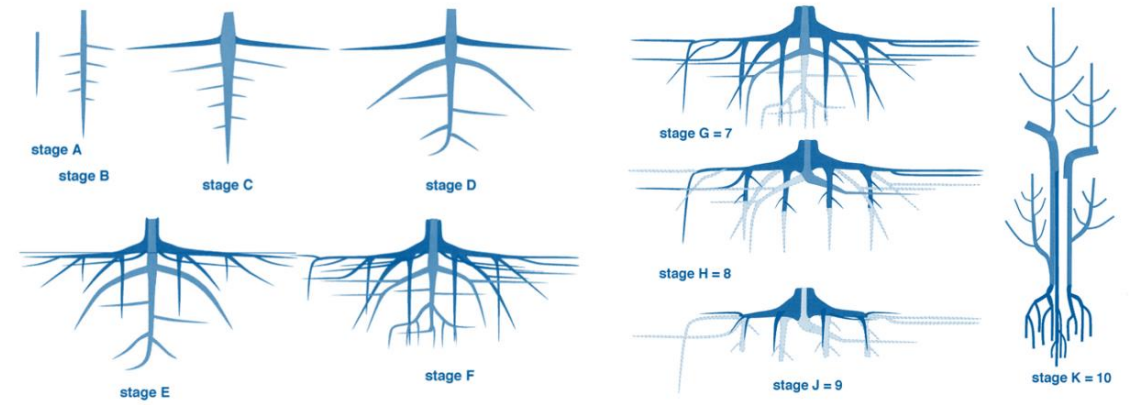


Young Phase - Life Stages 1-4
Hormonal Primacy
Growth in height
Apical dominance

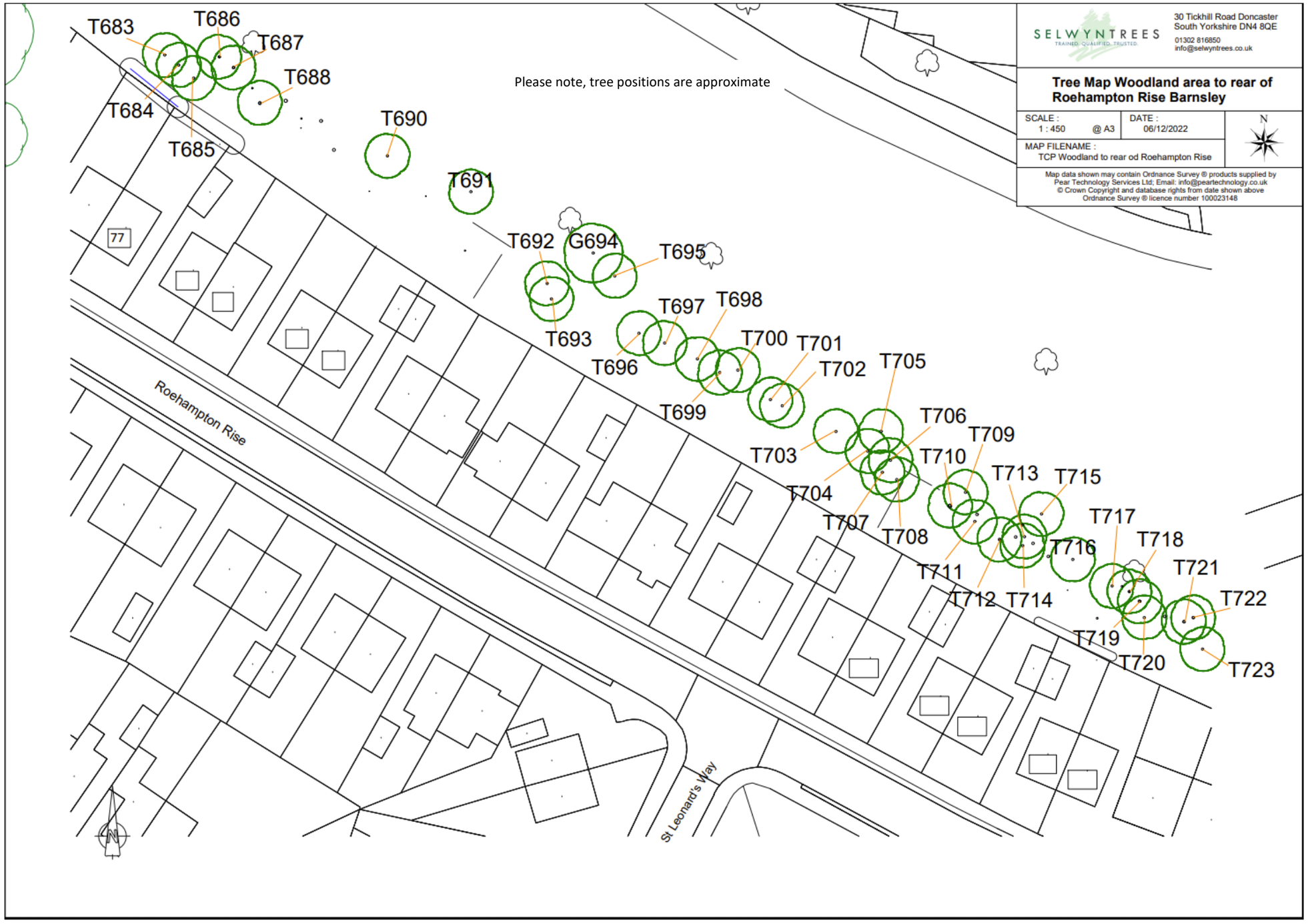
Mature Phase - Life Stages 5-7
Mechanical Primacy
Lower units break free of apical dominance,
Increase in volume.
Stage 5-6 Building the crown
Stage 7 Crown renewal

Ancient Phase - Life Stages 8-10
Energy Primacy
Early-, mid- & late-ancient Crown/root retrenchment, decay, hollowing, functional columns and reiterative growth.
Stage 8 Crown renewal / Stage 9 Crown Reduction /
Stage 10 Crown Reconstitution.





APPENDIX 7: SITE PLAN



End of report