

Arboricultural Safety Assessment

WC-228.1a

9, Ringstone, Barkisland, Ripponden,
Halifax HX4 0EU



W O O D S A G E
C O N S U L T I N G

Woodsage Consulting Ltd

Unit 2, Hey End Farm, Luddendenfoot, Halifax,
West Yorkshire HX2 6JN

T: 07962401997

E: info@woodsage.co.uk

W: <https://woodsage.co.uk>



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Report prepared by:	Jack Delaney MICFor MArborA
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1. Introduction

1.1. Introduction and Scope of Report

- 1.1.1. Woodsage Consulting Ltd have been instructed by David Clarke, to carry out an Arboricultural Safety Assessment of the land at 9, Ringstone, Barkisland, Ripponden, Halifax HX4 0EU.
- 1.1.2. The purpose of this report is to evaluate the structural and physiological condition of the trees at the site, in order to determine their likelihood of failure and associated risk potential.
- 1.1.3. In relation to the surrounding area, site features and usage, this report will also seek to provide informed management recommendations, with regards to the wellbeing and longevity of the trees at the site, alongside the future safety of people and/or property which may come within their vicinity.

1.2. Site Details

- 1.2.1. The site, shown in **Fig. 1.1**, below, is centred on OS grid reference SE 05473 18290, and comprises the main dwelling of 9, Ringstone, and the associated driveway and garden areas. The curtilage of the property also includes approximately 0.6 ha of mixed-deciduous, early-mature woodland.



Figure 1.1: Aerial imagery showing the approximate boundaries of the site, outlined in red, and study areas, highlighted in yellow (Google Earth, 2023)

- 1.2.2. The site is bordered by residential properties or the gardens of residential properties to the north and east, and by agricultural land to the south and west.
- 1.2.3. The study areas, shown in **Fig 1.1**, above - as directed by the client - focus upon trees which are positioned along the eastern woodland boundary, or are within the garden of the property.

1.3. Site Elevation and Topography

- 1.3.1. The site lies at an altitude ranging between 290 - 305 m above sea-level.
- 1.3.2. The topography of the site slopes from west to east.



1.4. Desk Based Study

- 1.4.1. Cranfield (2023) states that the Soilscape 6 occurs throughout the site; these are slightly acidic, loamy soils, that are freely draining. No further detailed soil analysis was carried out as part of the survey.
- 1.4.2. According to information provided on the website of Calderdale Council (2023), trees to the south and west of the site are subject to a woodland tree preservation order (TPO Ref: 88/00261/C). TPO Ref: 88/00261/C lists the following species: oak (*Quercus* sp.), beech (*Fagus* sp.), birch (*Betula* sp.), sycamore (*Acer pseudoplatanus*), horse chestnut (*Aesculus hippocastanum*), willow (*Salix* sp.), and hawthorn (*Crataegus* sp.).
- 1.4.3. The purpose of a woodland TPO is to safeguard valuable areas of established woodland, which fundamentally depend on natural regeneration and/or new planting. All trees and saplings within the defined area of TPO Ref: 88/00261/C are therefore afforded statutory protection, regardless of their size and age, including those which have seeded naturally since the order was enacted.
- 1.4.4. Several trees to the east of the site are also subject to a group TPO (Ref: 88/00261/C).
- 1.4.5. The approximate locations of TPOs at the site are shown in **Fig. 1.2**, Below.

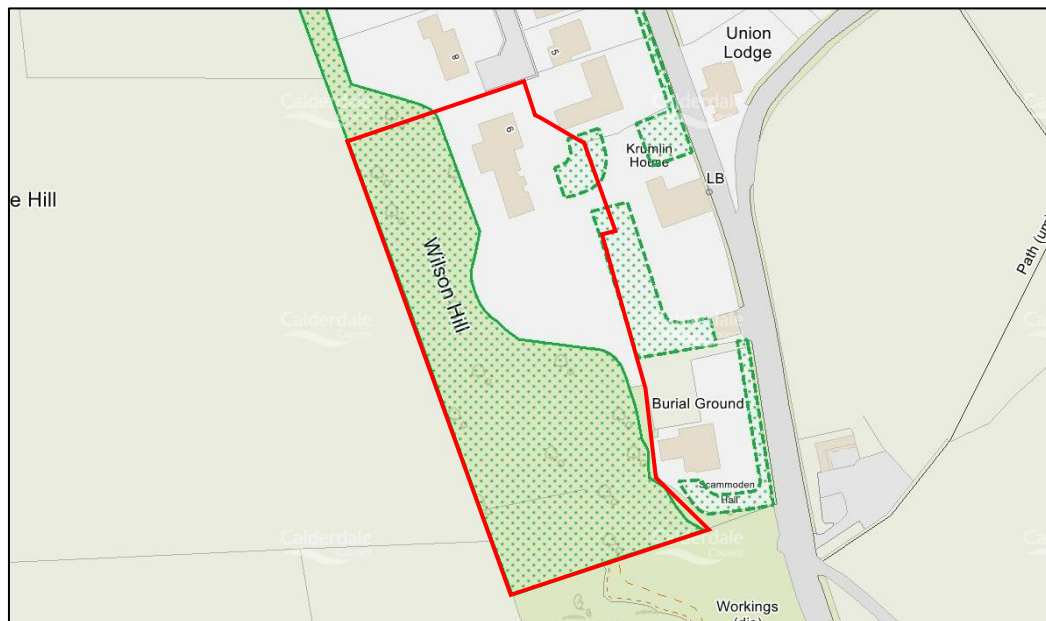


Figure 1.2: Plan showing the approximate locations of woodland and group TPOs, shaded in green (Calderdale Council, 2023).



2. Methods

2.1. Survey Details

- 2.1.1. The site survey was carried out on Friday the 8th of December 2023.
- 2.1.2. There were intermittent rain showers at the time of the survey, though the visibility of the trees was not impeded.

2.2. Survey Personnel

- 2.2.1. The survey was carried out by Jack Delaney. Jack is a Chartered Arboriculturalist (Member of the Institute of Chartered Foresters), and has worked in the arboricultural sector for over 15 years. Jack holds an FdSc in Arboriculture, with distinction, and is a Professional Member of the Arboricultural Association. Jack is also a LANTRA qualified Professional Tree Inspector, and is a trained and registered user of Quantified Tree Risk Assessment (QTRA).

2.3. Tree Inspection Methods

- 2.3.1. The trees at the site were inspected from ground level using the Visual Tree Assessment methodology (VTA - Mattheck & Breloer, 1994), and included a detailed inspection of the structural and physiological condition of each tree.
- 2.3.2. Where necessary, trees were assessed with the aid of a metal probe, for inspection of stem cavities and areas of decay, and a nylon sounding mallet, for the purpose of detecting changes in resonance in stem wood (which may indicate dysfunction and that further investigation is required).
- 2.3.3. Tree heights were measured to the nearest metre using an electric clinometer and crown spreads were measured to the nearest metre using a laser measurer. The diameter at breast height (DBH) of trees was measured to the nearest centimetre at 1.5 m above ground level.
- 2.3.4. Where access to trees was obstructed or obscured, measurements have instead been estimated.

2.4. Tree Risk Assessment (QTRA)

- 2.4.1. Tree hazard potential was calculated using the QTRA (2020) methodology. QTRA quantifies the risk of significant harm from tree failure in a way that enables tree owners to balance safety with tree values and operate to predetermined limits of tolerable or acceptable risk.
- 2.4.2. The QTRA method provides a framework for the assessment of the three primary components of tree-failure, those being, target, size, and probability of failure (PoF).
- 2.4.3. Ranges of value for target, size, and PoF are entered into a QTRA calculator which generates a traffic light colour-coded risk of harm (RoH), and indicates the level of remedial action required:
- Trees with a **broadly acceptable** RoH pose a level of risk which is as low as is reasonably practicable (ALARP), and no further action is usually required.
 - Trees with a **tolerable** RoH may require further action, depending on who is at risk, and whether the RoH is ALARP.
 - Trees with an **unacceptable** RoH require the risk to be controlled, usually through remedial works to the tree.
- 2.4.4. Using these criteria, a tree survey schedule was drawn up.



3. Results and Assessment

3.1. Survey Constraints

- 3.1.1.** The survey was constrained by the season in which it took place; for example, certain pathogens, in particular the fruiting bodies of decay fungi, are only visible at specific times of year; assessment of tree vitality and vigour is inherently more accurate during the summer months when deciduous trees are in full leaf.
- 3.1.2.** A topographical survey of the site was not provided for the purpose of the survey; trees have instead been plotted using a combination of land features, manual measurements, and GPS, with an estimated accuracy of within 5 m.
- 3.1.3.** A substantial number of the trees at the site are situated within dense areas of understorey vegetation, or have dense epicormic or epiphytic plants established on them, which restricted VTA. As such, defects may be present which could not be inspected in detail.

3.2. Target Zones

- 3.2.1.** In the event of failure, the trees identified at the site have potential to impact the following targets:
- The garden of the property, and adjacent third-party gardens, where the average occupancy beneath trees is in the region of 2 minutes per week – 14 mins per day, which classifies as QTRA **Target Zone 3** or **4**.
 - The main property and adjacent third-party properties, which in the event of tree failure may sustain in the region of £20 - £20,000 in damage. These have been classed as QTRA **Target Zone 3, 4** or **5**, depending upon the size and location of the trees.
 - Woodland areas within the site, where the average occupancy beneath trees is in the region of 2 minutes per month – 1 minute per day. These have been classed as QTRA **Target Zone 4** or **5**, depending on location and usage.
- 3.2.2.** The QTRA Target Zones at the site are illustrated in the **QTRA Target Zone Plan**, which can be viewed in **Appendix 3**. For a more detailed explanation of target zones, refer to the QTRA User Manual (2020).

3.3. Tree Population Observations

- 3.3.1.** A total of 19 trees and one group of trees were recorded during the survey.
- 3.3.2.** The surveyed trees range from semi-mature to mature in age, and are predominantly located to the south and west of the site, on the boundary of an area of mixed-deciduous woodland.
- 3.3.3.** European beech (*Fagus sylvatica*) was the most frequently encountered species within the study areas, and accounted for approximately 52% of the recorded trees. The remaining 48% was comprised of sycamore (*Acer pseudoplatanus*), silver birch (*Betula pendula*), and sessile oak (*Quercus petraea*).

3.4. Survey Results and Assessment

- 3.4.1.** Taking account of the target zones, size of the trees, and their probability of failure:
- 17 trees and one group of trees were determined to present a broadly acceptable RoH of < 1/1,000,000.
 - Two trees were determined to present a tolerable RoH of between 1/1,000 and 1/1,000,000.



- None of the trees were determined to present an unacceptable RoH of < 1/1,000.

Table 3.1: Summary of tree RoH categories.

RoH	Tree/Group Ref. Numbers	Totals
Broadly Acceptable	T001, T003, T004, T006, T007, T008, T009, T010, T011, T012, T013, T014, T015, T016, T017, T018, T019 G001	17 Trees 1 Group
Tolerable	T002, T005	2 Trees
Subtotal:		19 Trees 1 Group

3.4.2. Images of the trees can be viewed in **Appendix 1**. The **Tree Survey Schedule**, which can be viewed in **Appendix 2**, details the full results of the survey. The locations of all the surveyed trees can be viewed in the **Tree Plan** in **Appendix 4**.

3.4.3. There are additional trees on the site, however, due to their relatively small size and/or distance from targets, these were not included in the survey.

3.5. Trees with a Tolerable RoH

3.5.1. T002 is a mature European beech (*F. sylvatica*), which displays a cavity opening at circa 4 m, at the base of a primary branch extending north-east. There is visible decay to the exposed ripewood, with the cavity appearing to extend upwards in a decay column. European beech (*F. sylvatica*) does not form a true, durable heartwood, and the innermost wood of old species, like T002, consists of dysfunctional sapwood that is readily colonised by decay fungi when exposed by injury or pruning (Lonsdale, 2015). Due to this defect, T002 was deemed to present a RoH of 1/300,000; this level of risk is considered tolerable when the associated risk is imposed on others, provided that the RoH is ALARP.

3.5.2. T005 is a moribund tree which was deemed to present a RoH of 1/100,000; this level of risk is considered tolerable when the associated risk is imposed on others, provided that the RoH is ALARP.

3.6. Trees with a Broadly Acceptable RoH

3.6.1. All of the remaining trees and groups of trees at the site were determined to present a broadly acceptable RoH of < 1/1,000,000.



4. Conclusion and Recommendations

4.1. Tree Works

- 4.1.1.** To reduce the RoH posed by T002, it is recommended that the defective primary branch, which displays a decay cavity at circa 4 m, is reduced by approximately 5 m. Although the reduction of mature trees is usually best avoided, provided that the works are completed in accordance with *BS 3998: 2010: Tree Work – Recommendations*, pruning will only be carried out to the tertiary branches, which is unlikely to be of significant long-term detriment to the tree. The proposed reduction of T002 will reduce the effective ‘windsail’ of the canopy, thereby reducing leverage at the point of the cavity, and so too the probability of failure.
- 4.1.2.** To remove the RoH posed by T005, it is recommended that the tree is removed.
- 4.1.3.** Unrelated to risk mitigation and at the discretion of the landowner, it is suggested that further low-priority works to T015, T017 and T018 – which are summarised in **Tab. 4.1**, below - are undertaken in the interests of site management.

Table 4.1: Tree works schedule and priority categories.

Tree Ref:	Management Recommendations	Priority Category
T002	<ul style="list-style-type: none">Reduce primary branch extending north-east, with decay cavity at base, by approx. 5 m.	Moderate
T005	<ul style="list-style-type: none">Remove trees	
T015		Low
T017		
T018	<ul style="list-style-type: none">Sever ivy at bases to facilitate future inspections	

4.2. Legal Constraints

- 4.2.1.** According to information provided on the website of Calderdale Council (2023), T002, T005, T015, T017, and T018 are subject to TPOs.
- 4.2.2.** Prior written consent should therefore be obtained from Calderdale Council, prior to the commencement of the works recommended within this document¹. Killing or damaging a protected tree is a criminal offence and can result in an unlimited fine.
- 4.2.3.** All tree works should be carried out by a suitably qualified and fully insured arboricultural contractor who is able to comply with *BS 3998: 2010: Tree Work - Recommendations*.
- 4.2.4.** Trees provide valuable habitat for wild birds, bats, and many other forms of wildlife. The risks posed to these should be suitably assessed before the recommendations within this report are completed.
- 4.2.5.** Under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and the Wildlife and Countryside Act 1981:
- it is an offence to intentionally or recklessly disturb any wild bird listed on Schedule 1 while nest building, or to destroy a nest containing eggs or young.
 - it is an offence to intentionally or recklessly damage or destroy a bat roost site, even if the roost is not occupied at the time.

¹ Note, however, that LPA consent is not usually required for the removal of dead trees, like T005, or for the removal of ivy, as has been recommended to T017 and T018.



4.3. Additional Information

- 4.3.1.** Under the Occupiers Liability Act (1957 and 1984), landowners have a duty of care to ensure reasonable steps are taken to prevent or minimise the risk of personal injury or damage to property, arising from the presence of trees on a site.
- 4.3.2.** In order to maintain a duty of care, it is essential that trees are inspected regularly, and also following any event which may have incurred sudden change, for example, a storm.
- 4.3.3.** The observations made within this document are valid only during typical weather conditions. The majority of failures are associated to structural defects and/or declining physiological conditions, often in combination with unusual or extreme weather conditions. Every effort has been made to identify defects on the trees, and the risks these pose; however, even healthy trees or parts of healthy trees, which are absent of defects, may fail at any time, and therefore the consequences of such phenomena are unforeseeable.
- 4.3.4.** Providing the recommendations within this document are completed, and update inspections are carried out within the proposed time frame, there will be very little residual risk to people and/or property of a foreseeable nature.
- 4.3.5.** All visual observations and recommendations relate to the condition of the trees and surroundings at the time of the survey. As such, any subsequent changes to landform in the proximity of the trees could invalidate the advice given.
- 4.3.6.** The results of this survey are considered valid for a period of 30 months; it is therefore recommended that an update assessment is carried out on or before June 2026.



References

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Lonsdale, D (2015). *The principles of Tree Hazard Assessment and Management*. Stonehouse: The Arboricultural Association.

Mattheck, C., Breloer, H. (1994). *The Body Language of Trees, a Handbook for Failure Analysis*. London: Her Majesty's Stationary.

QTRA (2020) *Quantified Tree Risk Assessment: User Manual (Version 5)*. Macclesfield: QTRA.



Appendices

Appendix 1: Images of Trees



Plate 1: T001 (foreground, left) & T002 (foreground, right)



Plate 2: Decay column at base of primary branch on T002



Plate 3: T003 (right) & T004 (left)



Plate 4: T005



Plate 5: T006



Plate 6: T007 (left) & T008 (right)



Plate 7: T008, T009, & T010 (foreground, left to right)



Plate 8: T011 (foreground, left) & T012 (foreground, right)



Plate 9: T013



Plate 10: T014 (right) & T015 (left)



Plate 11: Acute and likely included primary union on T015



Plate 12: T016



Plate 13: T018, T017, & T019 (left to right)



Plate 14: G001



Appendix 2: Tree Survey Schedule

Table Key		
Tree/Group Ref:	Reference numbers, as shown in the <i>Tree Plan</i> in <i>Appendix 4</i>	Species: Common (and <i>binomial name</i>)
Height (H):	Measured to nearest metre	DBH: Diameter at breast height (1.5m), measured to nearest centimetre
Crown Spread (CS):	Average radius of crown, measured to nearest metre	Target Type: V = Vehicle on Highway; H = Human; P = Property
Mass:	The percentage mass of a tree or branch can alter according to its physiological condition, and has been estimated accordingly	SULE: Safe useful estimated life expectancy of tree, in years
		Vitality (V): A measure of the physiological condition of tree. G = Good; F = Fair; P = Poor; D = Dead
Age	Young (Y): Young sapling/newly planted tree Semi-mature (SM): Trees in within first third of life expectancy for species type Early-mature (EM): Trees in second third of life expectancy for species type	Mature (M): Trees in final third of life expectancy for species type Over-mature (OM): Tree that has exceeded its natural life span Veteran (V): Trees of any age which show ancient characteristics
Priority Categories		
N/A: Tree Risk of Harm (RoH) is broadly acceptable or as low as reasonably practicable (ALARP), and therefore no further works are prescribed Urgent: Emergency situations where there is likelihood of imminent failure; works to be completed soon as reasonably practicable		Urgent: Dangerous trees that require planning and consultation; works to be completed within 2 weeks of inspection Moderate: Trees noted as hazardous; works to be completed within 20 weeks of inspection Low: Tree RoH is broadly acceptable, or ALARP; works to be completed for long-term management purposes and at the discretion of the landowner
Quantified Tree Risk Assessment Calculations		
Target Zone	Size	Probability of Failure (PoF)
Target 3: <ul style="list-style-type: none"> Average estimated occupancy of 2 mins – 14 mins p/day Average estimated traffic of 2 – 7 pedestrians p/hr Potential to cause £2,000 – £20,000 in damage to property 	Size 1: > 450 mm DBH Size 2: 450-260 mm DBH Size 3: 250-110 mm DBH Size 4: 100-25 mm DBH Size P: Used to calculate damage to property	1: 1/1 - > 1/10 2: 1/10 - > 1/100 3: 1/100 - > 1/1K 4: 1/1K - > 1/10K 5: 1/10K - > 1/100K 6: 1/100K - 1/1M 7: < 1/1M
Target 4: <ul style="list-style-type: none"> Average estimated occupancy of 2 mins p/week – 1 min p/day Average estimated traffic of 3 pedestrians p/day – 1 p/hr Potential to cause £200 – £2,000 in damage to property 		
Target 5: <ul style="list-style-type: none"> Average estimated occupancy of 2 mins p/month – 1 min p/week Average estimated traffic of 2 pedestrians p/week – 2 p/day Potential to cause £20 – £200 in damage to property 		
RoH:		
Expressed as a fraction, with recommended follow up action: <ul style="list-style-type: none"> < 1/1M Broadly Acceptable: No further remedial action is required 1/10K - 1/1M Tolerable: Remedial action may be required, to ensure that risk is ALARP 1/1K – 1/10K Tolerable (when not imposed upon others): Remedial action is required, to ensure that risk is ALARP <1/1K Unacceptable: Urgent remedial action is required 		



Individual Trees

Tree Ref:	Species	A	SULE	H	CS	DBH	V	Comments	Area of Tree Risk Assessed	Target Description	QTRA Factors					Management	Priority Category
											Target Type /Zone	Size	Mass	PoF	RoH		
T001	European Beech (<i>Fagus sylvatica</i>)	M	40-80	22	10	75	G	Bifurcates at 4 m into multiple co-dominant stems; unions are acute though appear structurally optimised. Branches extending south have historically been reduced. Pronounced root buttressing at base of main stem.	Acute primary unions	Third-party property	P3	P	100 %	6	1/30M	No works recommended	N/A
T002	European Beech (<i>Fagus sylvatica</i>)	M	40-80	22	10	78	G	Bifurcates at 2 - 3 m into multiple co-dominant stems; unions are acute though appear structurally optimised. Multiple pruning wounds on main stems to 6 m, some with decay to the exposed ripewood apparent. Cavity opening on primary branch extending north-east at circa 4 m, with visible decay to the exposed ripewood, appearing to extend upwards as decay column. Pronounced root buttressing at base of main stem.	Acute primary unions	Third-party property	P3	P	100 %	4	1/300K	Reduce primary branch extending north-east at circa 4 m - with decay cavity at base - by approx. 5 m.	Moderate
T003	European Beech (<i>Fagus sylvatica</i>)	M	40-80	21	10	84	F	Bifurcates at 2 m into three co-dominant stems; unions are acute though appear structurally optimised. Major deadwood > 100 mm in diameter scattered throughout the crown.	Deadwood	Woodland	H4	3	100 %	3	1/5M	No works recommended	N/A
T004	Sycamore (<i>Acer pseudoplatanus</i>)	M	40-80	21	9	32 45 68	P	Bifurcates at ground level into three co-dominant stems; unions are acute and are possibly included. Branches extending south-east have historically been reduced. Minor	Acute primary unions	Third-party property	P3	P	100 %	6	1/30M	No works recommended	N/A



Tree Ref:	Species	A	SULE	H	CS	DBH	V	Comments	Area of Tree Risk Assessed	Target Description	QTRA Factors					Management	Priority Category
											Target Type /Zone	Size	Mass	PoF	RoH		
								deadwood < 100 mm in diameter scattered throughout the crown.									
T005	Unidentified Dead Tree	D	< 5	18	1	26	D	Moribund tree.	Main stem/root plate failure	Woodland	H3	2	100 %	3	1/100K	Remove tree	Moderate
T006	European Beech (<i>Fagus sylvatica</i>)	M	40-80	22	10	53	G	Asymmetrical crown spread and leaning main stem to south, likely developed due to proximity with adjacent trees.	Main stem/root plate failure	Third-party property	P3	P	100 %	6	1/30M	No works recommended	N/A
T007	European Beech (<i>Fagus sylvatica</i>)	EM	40-80	18	7	62	G	Bifurcates at 3 m into three co-dominant primary stems; unions are acute though appear structurally optimised. Pronounced root buttressing at base of main stem.	Acute primary unions	Garden	H3	2	100 %	6	1/100M	No works recommended	N/A
T008	European Beech (<i>Fagus sylvatica</i>)	EM	40-80	16	7	52	G	Multiple crossing and naturally braced secondary branches throughout the crown. Girdling root at base of main stem.	Main stem/root plate failure	Garden	H3	1	100 %	7	1/500M	No works recommended	N/A
T009	European Beech (<i>Fagus sylvatica</i>)	EM	20-40	17	6	65	G	Large pruning wound on south aspect of main stem at 2 m, approx. 50x40 cm, from removal of failed primary branch. Remaining tree is left unbalanced, though is weighted towards low-occupancy targets (woodland), and the residual wound does not appear to have compromised the parent stem. Pronounced root buttressing at base of main stem.	Main stem/root plate failure	Woodland	H4	1	100 %	6	1/40M	No works recommended	N/A



Tree Ref:	Species	A	SULE	H	CS	DBH	V	Comments	Area of Tree Risk Assessed	Target Description	QTRA Factors					Management	Priority Category
											Target Type /Zone	Size	Mass %	PoF	RoH		
T010	European Beech (<i>Fagus sylvatica</i>)	SM	40-80	18	5	46	G	No obvious significant defects	Main stem/root plate failure	Garden	H3	1	100 %	7	1/500M	No works recommended	N/A
T011	European Beech (<i>Fagus sylvatica</i>)	EM	40-80	21	6	59	G	Historically reduced at circa 18 m.	Main stem/root plate failure	Main property	P3	P	100 %	7	1/400M	No works recommended	N/A
T012	European Beech (<i>Fagus sylvatica</i>)	M	20-40	19	9	71	G	Historically reduced at circa 17 m. Multiple historic pruning wounds on main stem to 5 m, all now fully occluded. Pronounced root buttressing at base of main stem.	Main stem/root plate failure	Main property	P3	P	100 %	7	1/400M	No works recommended	N/A
T013	Sessile Oak (<i>Quercus petraea</i>)	SM	20-40	17	5	38	F	Suppressed by adjacent trees with leaning main stem to the west, which corrects from 5 m upwards. Minor deadwood < 100 mm scattered throughout the crown.	Deadwood	Woodland	H4	4	50%	3	1/100M	No works recommended	N/A
T014	Sycamore (<i>Acer pseudoplatanus</i>)	SM	40-80	20	6	15 23 41	F	Bifurcates at ground level into three co-dominant primary stems. Target canker, approx. 10x20 cm, with surrounding bark necrotic, at base of one stem.	Main stem/root plate failure	Main property	P4	P	100 %	6	1/300M	No works recommended	N/A
T015	Sycamore (<i>Acer pseudoplatanus</i>)	SM	40-80	20	6	24 26 34	F	Bifurcates at ground level into three co-dominant primary stems; one union is very acute and appears included, with slight lateral broadening of parent stem directly beneath the point of bifurcation.	Included primary union	Main property	P4	P	100 %	5	1/30M	Remove tree	Low
T016	European Beech (<i>Fagus sylvatica</i>)	M	20-40	20	9	75	G	Historically reduced at circa 17 m. Multiple historic pruning wounds on main stem to 5 m, all now fully	Main stem/root plate failure	Main property	P3	P	100 %	7	1/400M	No works recommended	N/A



Tree Ref:	Species	A	SULE	H	CS	DBH	V	Comments	Area of Tree Risk Assessed	Target Description	QTRA Factors					Management	Priority Category
											Target Type /Zone	Size	Mass	PoF	RoH		
								occluded. Base and lower main stem obscured by dense vegetation, though upper portion of crown appears of good vitality and vigour with no indication of physiological dysfunction.									
T017	Sycamore (<i>Acer pseudoplatanus</i>)	EM	40-80	18	6	37 40	F	Bifurcates at ground level into two co-dominant primary stems; union is acute, though appears structurally optimised. Dense ivy established on main stem and structural branches, obscuring tree features and potential defects. Minor deadwood < 100 mm in diameter scattered throughout the crown.	Acute primary union	Third-party property	P3	P	100 %	6	1/30M	Sever ivy at base to facilitate future inspections	Low
T018	Sycamore (<i>Acer pseudoplatanus</i>)	EM	40-80	18	6	47 54	F	Bifurcates at ground level into two co-dominant primary stems; union is obscured beneath soil level. Dense ivy established on one stem, obscuring tree features and potential defects. Minor deadwood < 100 mm in diameter scattered throughout the crown. Multiple pruning wounds on main stem to circa 8 m, from previous crown lifting works.	Deadwood	Garden	H3	4	50%	3	1/10M	Sever ivy at base to facilitate future inspections	Low
T019	Sycamore (<i>Acer pseudoplatanus</i>)	SM	40-80	18	5	45	G	Asymmetrical crown spread due to proximity with adjacent trees.	Main stem/root plate failure	Garden	H3	2	100 %	7	1/1B	No works recommended	N/A







Groups of Trees

Group Ref:	Species	A	SULE	Mx. H	Mx. DBH	V	Comments	Area of Tree Risk Assessed	Target Description	QTRA Factors					Management	Priority Category
										Target Zone/Type	Size	Mass	PoF	RoH		
G001	European Beech (<i>Fagus sylvatica</i>) Sessile Oak (<i>Quercus petraea</i>) Silver Birch (<i>Betula pendula</i>)	SM EM	40-80	18	59	F	Group containing six trees on woodland edge. Major deadwood > 100 mm in diameter scattered throughout the group, though predominantly positioned above low-occupancy targets. Pruning stubs on trees to south of group, from previous crown lifting works. Several trees display acute primary and secondary unions, leaning stems, and/or branch cavities, though none of these features result in a PoF of > 1/100K.	Deadwood	Garden	H4	3	100 %	3	1/5M	No works recommended	N/A



Appendix 3: QTRA Target Zone Plan

Site name:	9, Ringstone, Barkisland, Ripponden, Halifax HX4 0EU
Drawing Number:	WC-228.1a.3
Client:	David Clarke
Revision:	A
Drawn By:	Jack Delaney
Date:	18th December 2023
Scale:	1:1000 @ A4

Map Key:	
	Target Zone 3 <ul style="list-style-type: none">Human - Residential gardens and footpaths, with estimated occupancies of 2 - 14 mins p/day, or an average traffic of 2 - 7 pedestrians p/hour.
	Target Zone 3, 4 or 5 <ul style="list-style-type: none">Property - The main dwelling and car parking area, and adjacent third-party properties, which in the event of tree failure may sustain in the region of £20 - £20,000 in damage.
	Target Zone 4 or 5 <ul style="list-style-type: none">Human - Woodland areas, with estimated occupancies of 2 mins p/month - 1 min p/day, or an average traffic of 2 pedestrians p/week - 1 p/hour.
	Site boundaries



Woodsage Consulting Ltd

T: 07962401997

E: info@woodsage.co.uk

W: <https://woodsage.co.uk>



Appendix 4: Tree Plan

Site name:	9, Ringstone, Barkisland, Ripponden, Halifax HX4 0EU
Drawing Number:	WC-228.1a.4
Client:	David Clarke
Revision:	A
Drawn By:	Jack Delaney
Date:	18th December 2023
Scale:	1:1000 @ A4

Map Key:	
	Trees deemed to present a broadly acceptable risk of harm (RoH), or a tolerable RoH that is already ALARP, that require no further work
	Trees deemed to present a broadly acceptable RoH, or a tolerable RoH that is already ALARP, recommended for low-priority remedial works in the interests of site management
	Trees identified to display defects, with a tolerable RoH, that require further remedial work
	Groups of trees deemed to present a broadly acceptable risk of harm (RoH), or a tolerable RoH that is already ALARP, that require no further work
	Site boundaries



Woodsage Consulting Ltd
 T: 07962401997
 E: info@woodsage.co.uk
 W: <https://woodsage.co.uk>