

ARBSPEC

CONSULTANCY

Tree Hazard Assessment

Reading Bridge House

November 2021

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1.0 Client Brief

- 1.1 Ms Katie Moran invited ArbSpec Consultancy to tender for a tree hazard assessment for trees within falling distance of the highway, footway, watercourse, buildings and surrounding areas of land and property report on the structural and physiological conditions of these trees in relation to safety.

2.0 Introduction

- 2.1 ArbSpec Consultancy have been instructed to undertake a ground level visual tree inspection of a tree population at Reading Bridge House. The purpose of the tree inspection is to assess the structural and physiological condition of trees in relation to immediate and non-immediate risks posed by trees to public safety and damage to property.
- 2.2 Common law precedents bind owners of trees to a duty of care that is determined by principles of negligence. Trees must be routinely inspected and maintained as far as is reasonably practicable so as to prevent injury to people and damage to property.
- 2.3 Following a High Court ruling (*Cavanagh v Witley Parish Council, 2017*) which concluded that trees in high risk zones must be inspected in detail every two years and, that an 18-month inspection interval is reasonable in high risk zones where tree failure can be expected to result in a high probability of injury or death. The Court of Appeal recently confirmed that a two-year cycle of inspections in high risk zones is a reasonable approach.

3.0 Tree Hazard Assessment Methodology

- 3.1 All tree inspections were carried out in accordance with current best practice (Visual Tree Assessment) to give a systematic, consistent and transparent evaluation method to tree inspecting. This widely accepted methodology takes into account structural and physiological symptoms from which judgements can be made regarding the hazard rating of the tree. Tree information and observations, including species, age class, height, defects, comments, recommendations and work priority ratings have been recorded in the tree inspection schedule, see appendix two.
- 3.2 All trees with harm or damage potential have been inspected, trees with significant defects have been recorded. All observations and recommendations have been recorded during the individual assessment of each tree; the positions of which have been provided or plotted on a site plan, see appendix three.
- 3.3 The inspections were carried out from ground level, an acoustic sounding hammer and probe were used only in those instances where basal defects were visible or suspected, to determine their extent and seriousness.
- 3.4 Distances were measured using a hand-held laser distance meter.
- 3.5 No invasive decay detective instruments were used.

3.6 The survey has recorded cases where trees conflict with statutory obligations, such as the Highways Act 1980, or where an actionable nuisance (in the legal sense of the term) is likely to occur.

3.7 No samples of trees have been taken for further analysis.

4.0 Limitations

4.1 The tree inspection has been undertaken from ground level only with the aid of binoculars, probe and acoustic sounding hammer. No aerial inspections or subterranean inspections were undertaken. Should further or a more detailed inspection be required then this will be specified in the tree inspection schedule.

4.2 Living trees and their associated organisms, for example fungi, insects and viral or bacterial diseases, have life cycles that change with the seasons throughout the year. It is therefore not always possible to identify all of the potential defects and/or diseases at one visit.

4.3 We have been told that the trees are subject of a Tree Preservation Order (TPO), but we have not contacted the local planning authority to verify this. Should any planning controls be in place, it would be necessary to obtain consent (or in the case of a Conservation Area give six weeks' notice of intent) before undertaking any such work.

4.4 The recommendations made in this report are valid for the period as stated as a work priority in the Action and Action comment columns in the tree inspection schedule.

4.5 The tree locations have been plotted onto a site plan which is not to scale and for identification purposes only.

4.6 Two trees could not be inspected in detail. Re-inspection actions have been recorded in the tree inspection schedule. A re-inspection is required to dispense duty of care.

5.0 Findings

5.1 The tree inspection was conducted by Jack Adams on October 16th, 2021. Weather conditions during the inspection were clear to overcast, there was a slight breeze.

5.2 Details of the trees, comments on the structural and physiological condition of each and recommendations are included in a tabulated format inspection schedule contained as appendix two within this report.

6.0 Conclusion

- 6.1 Trees are not considered dangerous by virtue of their existence, and they, or any part of them, would normally need to be defective or dysfunctional in some way for it/them to have the potential to fail and we have to accept that a range of (external) variables, including weather conditions, are difficult to take into account when assessing tree conditions.
- 6.2 The significance of any area of decay within a tree is determined by both its extent and position. The tree will be weakest where the decay is at its most extensive, or where the decayed area becomes amalgamated with other mechanical defects or areas of high, or unusual mechanical loading. When assessing any area of decay it is necessary to take into account many different factors. In addition to those mentioned above, in order to quantify the defect, additional considerations must include the size and species of the tree, level of exposure to prevailing winds and if and what type of pathogen(s) are present.
- 6.3 Where defects have been observed however no actions recommended, these trees or their defects are not considered to require intervention or remedial works in the current condition. For trees with defects that are not considered acceptable, remedial works are prescribed to bring the risk to an acceptable level.
- 6.4 The condition, management recommendations and priority of work for each tree have been stated in the tree survey schedule. Accompanying site plans have also been generated in order to locate trees.

7.0 Recommendations

- 7.1 Recommendations for management of the trees refer mainly to tree surgery for remedial work, or for the removal of trees. Recommended work is given a priority listing.
- 7.2 Recommended works will require a detailed work specification for an arboricultural contractor. It is beyond the scope of this report to provide such details. All tree work should be carried out to British Standard 3998, Tree Work – Recommendations.
- 7.3 The work schedule and site plan are to be issued to an arboricultural contractor to undertake specified works with any necessary permissions obtained.
- 7.4 Trees to be re-inspected within a maximum of two years, however, an 18-month inspection interval is reasonable in order to have a better view of vitality and allow trees to be inspected during different times of year.
- 7.5 Broadleaf trees to be inspected without foliage next time to have a better view of structure.
- 7.6 Two trees could not be inspected in detail. Re-inspection actions have been recorded in the tree inspection schedule. A re-inspection is required to dispense duty of care.

7.7 It is recommended that a competent and qualified arboriculturist is engaged following completion of works to review the quality of works and ensure that the specification has been met in order to dispense duty of care.

8.0 Bibliography

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- Strouts, R.G. (2000). *Diagnosis of ill-health in trees*. Edinburgh; Forestry Commission.
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9.0 Qualifications, professional memberships and professional development

Qualifications and professional memberships

- Level 4 Diploma in Arboriculture
- Level 3 Professional Tree Inspector
- Arboricultural Association Technical Member
- Level 2 Trees and Timber Diploma
- NHSS 12D M7 Temporary Traffic Management Client Manager
- Practical Arboriculture Qualifications

Professional development

- Trees and Building Subsidence (2019)
- Professional Tree Inspection Refresher (2019)
- Bats and Arboriculture (2017)
- What's the Likelihood of Failure? (2017)
- Assessment of Tight Forks (2016)

10.0 Appendices

Appendix one – Tree inspection schedule key

Tree Ref No. - Identifies the tree, group or hedgerow with a unique identification number. This unique number also correlates on the site plan (appendix 3).

Species – Scientific name with common name in brackets.

Age – Y – Young, first 10 years of growth;

EM – Early Mature, in first one third of life expectancy;

SM – Semi Mature, in second third of life expectancy;

M – Mature, in the final third of life expectancy;

OM – Over Mature, more than three thirds of life expectancy completed and declining;

V – Veteran, a tree of value because of its features suitable as a wildlife habitat.

Height – Tree height measured in metres and recorded to the nearest metre.

Defects – a standardised format of describing a fault or condition that may contribute to a hazard or risk.

Defect Comments – to give further information or quantification to a defect(s) based on observations and other comments.

Action – The required remedial tree surgery works to be carried out by an Arboricultural Contractor. This may include further investigation of suspected defects that require more detailed assessment.

Action Comment – Further observations and comments to assist the specification of remedial works.

Work Priority – A priority rating for management work recommendations. This is determined from an assessment on the day taking into account the target occupation around the tree, the size/part of the tree which is defective, the likelihood of a defective part failing, the quality and value of the tree and other Arboricultural factors. The suggested timescales for work to be carried out are approximate and is provided below:

U - Urgent – to be carried out as soon as possible, i.e. less than 7 days

H - High – to be carried out within 1 month

M - Medium – to be carried out within 3 months

L - Low – to be carried out within 6 months

O - Other – to be carried out when identified by the site manager to achieve a desired objective, not safety related.

Appendix two – Tree inspection schedule, Reading Bridge House.

Inspected October 16th, 2021.

See next page:

Tree Ref No.	Species	Age	Height (m)	Defects	Defect Comments	General Comments	Action	Action Comments	Work Priority
02568	London plane	SM	10-15	Other	Detailed basal inspection on the east side of the stem is restricted due to the juxtaposition with the wall. Continual radial expansion of the stem and buttresses is likely to put pressure on the wall and potentially cause damage.	The tree has had a recent overall crown reduction using drop crotch thin methods. The regrowth emanating from the pruning wounds is <25mm in diameter and <2m in length. The tree has a slight lean to the south east.			
02569	London plane	SM	10-15	Deadwood	Minor to moderate sized deadwood distributed evenly throughout the crown, typical of the species.	The tree has had a recent overall crown reduction using drop crotch thin methods. The regrowth emanating from the pruning wounds is <25mm in diameter and <2m in length.	Deadwood	Remove major deadwood.	M 3 months
02570	London Plane	SM	10-15	Dieback	The tree subdivides into two stems at 4m above ground level. The stems are orientated perpendicular to the targets. The fork is U shaped. The eastern stem has died back.	The tree has had a recent overall crown reduction using drop crotch thin methods. The regrowth emanating from the pruning wounds is <25mm in diameter and <2m in length.	Deadwood	Remove major deadwood and declining stem.	M 3 months
				Stem wound	Stem wound at 3m on the west side of the stem. The feature is characteristic of a pruning wound. It measures 200mm in diameter, some wound wood has formed. No outwardly visual active decay.				

Tree Ref No.	Species	Age	Height (m)	Defects	Defect Comments	General Comments	Action	Action Comments	Work Priority
02571	London plane	SM	10-15	Deadwood	Minor to moderate sized deadwood distributed evenly throughout the crown, typical of the species.	Due to the juxtaposition with the wall, the continual radial expansion of the stem is likely to put pressure on the wall and potentially cause damage. Some stepped cracking was observed.	Deadwood	Remove major deadwood.	M 3 months
02572	London plane	SM	10-15			The tree has had a recent overall crown reduction using drop crotch thin methods. The regrowth emanating from the pruning wounds is <25mm in diameter and <2m in length. The radial expansion of roots has disrupted the tarmac to the south west and kerbstone.			
02573	London plane	SM	10-15	Deadwood	Minor to moderate sized deadwood distributed evenly throughout the crown, typical of the species.	The tree has had a recent overall crown reduction using drop crotch thin methods. The regrowth emanating from the pruning wounds is <25mm in diameter and <2m in length. The radial expansion of roots has disrupted the tarmac to the south west.	Deadwood	Remove major deadwood.	M 3 months

Tree Ref No.	Species	Age	Height (m)	Defects	Defect Comments	General Comments	Action	Action Comments	Work Priority
02574	London plane	SM	10-15	Other	Detailed basal inspection on the east side of the stem is restricted due to the juxtaposition with the wall. Continual radial expansion of the stem and buttresses is likely to put pressure on the wall and potentially cause damage.	The tree has had a recent overall crown reduction using drop crotch thin methods. The regrowth emanating from the pruning wounds is <25mm in diameter and <2m in length. The radial expansion of roots has disrupted the tarmac to the west.			
02575	London plane	Y	10-15			The tree has had a recent overall crown reduction using drop crotch thin methods. The regrowth emanating from the pruning wounds is <25mm in diameter and <2m in length. The radial expansion of roots has disrupted the tarmac to the west. Slightly etiolated form due to light competition with the adjacent canopy cover.			
02576	London plane	SM	10-15	Other	A detailed inspection of the base of the tree to east is restricted as a vermin trap has been placed between the stem and the wall, radial expansion of the stem has trapped the device.	The radial expansion of roots has disrupted the tarmac to the north west.	Other	Carefully remove the vermin trap to facilitate future inspection. Take care not to damage the bark or cambium.	L 6 months

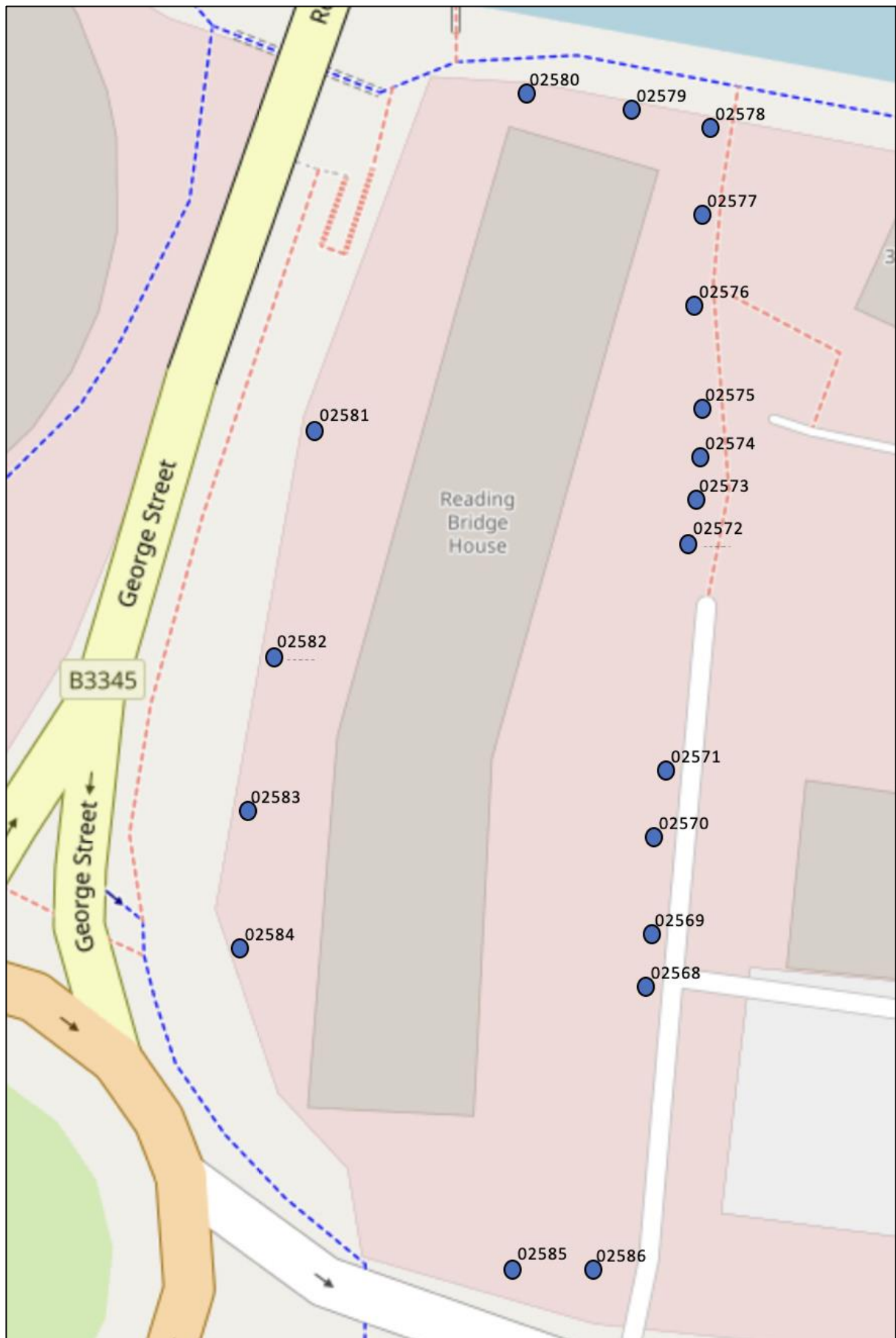
Tree Ref No.	Species	Age	Height (m)	Defects	Defect Comments	General Comments	Action	Action Comments	Work Priority
02577	London plane	SM	10-15			The tree has had a recent overall crown reduction using drop crotch thin methods. The regrowth emanating from the pruning wounds is <25mm in diameter and <2m in length. The radial expansion of roots has disrupted the tarmac to the south west.			
02578	Lombardy poplar	M	20+	Other	A detailed inspection of the crown structure is restricted due to dense foliage. The crown cannot be inspected in detail.	Growth habit indicates that crown reduction works have previously been undertaken.	Re-inspection	Undertake a visual inspection of the crown structure during winter 21-22 once leaves have abscised.	O Undertake inspection during winter 2021/22
02579	Hybrid black poplar	SM	15-20	Other	Extended branching to the north and upright stem on the south side. Whilst these features are a typical characteristic of the species it is recognised that branches with this growth habit are more prone to failure.		Selective radial crown reduction	Reduce 10x radial branches on the north side of the crown by 2-3m to appropriate secondary branching. Retaining a radial crown spread on the north side of 4-6m. Pruning wounds not to exceed 75mm in diameter.	M 3 months
							Selective height reduction	Reduce height of extended stem to south by 2-3m. Retain a finished height of approximately 18m. Pruning wounds not to exceed 75mm in diameter.	M 3 months

Tree Ref No.	Species	Age	Height (m)	Defects	Defect Comments	General Comments	Action	Action Comments	Work Priority
02580	Lombardy poplar	M	20+	Other	A detailed inspection of the crown structure is restricted due to dense foliage. The crown cannot be inspected in detail.		Re-inspection	Undertake a visual inspection of the crown structure during winter 21-22 once leaves have abscised.	O Undertake inspection in winter 21/22
02581	London plane	SM	15-20			The tree has had a recent overall crown reduction using drop crotch thin methods including crown raising over the highway. The regrowth emanating from the pruning wounds is <25mm in diameter and <2m in length.	Other	Fell dead stems 22m north east. Landownership is ambiguous, the trees may not be the responsibility of Reading Bridge House. Ascertain ownership prior to undertaking works.	M 3 months
02582	London plane	SM	15-20			The tree has had a recent overall crown reduction using drop crotch thin methods including crown raising over the highway. The regrowth emanating from the pruning wounds is <25mm in diameter and <2m in length.			
02583	London plane	SM	15-20	Root girdle	Girdling root at base to north west.	The tree has had a recent overall crown reduction using drop crotch thin methods including crown raising over the highway. The regrowth emanating from the pruning wounds is <25mm in diameter and <2m in length.			

Tree Ref No.	Species	Age	Height (m)	Defects	Defect Comments	General Comments	Action	Action Comments	Work Priority
02584	London plane	M	20+	Stem cavity	Stem cavity observed at 2.5m on north east side. Feature opening measures 350x150mm, extends inwardly by 200mm with limited upward, downward or sideways progression. The stem diameter at this height is >1000mm. No outwardly visual active decay.	The tree has had a recent overall crown reduction using drop crotch thin methods including crown raising over the highway. The regrowth emanating from the pruning wounds is <25mm in diameter and <2m in length. An interim reduction of radial branching to the north east may be required in order to maintain separation with the built form.			
02585	London plane	SM	10-15			The tree has had a recent overall crown reduction using drop crotch thin methods. The regrowth emanating from the pruning wounds is <25mm in diameter and <2m in length.			
02585	London plane	SM	15-20			The tree has had a recent overall crown reduction using drop crotch thin methods. The regrowth emanating from the pruning wounds is <25mm in diameter and <2m in length.			

Tree Ref No.	Species	Age	Height (m)	Defects	Defect Comments	General Comments	Action	Action Comments	Work Priority
02586	London plane	SM	15-20	Branch wound	Longitudinal branch wound on south western lateral on south east side at 5m from ground level. Characteristic of a branch failure. Wound measures approximately 300x100mm. No outwardly visual active decay. Some wound wood has formed.	The tree has had a recent overall crown reduction using drop crotch thin methods. The regrowth emanating from the pruning wounds is <25mm in diameter and <2m in length.			

Appendix three – Site plan, Reading Bridge House.



Appendix four - London plane 02570



Stem with dieback.

Appendix five – London plane 02571



Appendix six – Lombardy poplar 02578 and 02580



Dense foliage restricting a detailed inspection of the crown and structure. Trees appear to have had a previous reduction. A winter re-inspection is required once leaves have abscised.

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