TREE RISK ASSESSMENT REPORT

Site
Aldbury C of E Primary and Nursery School, Stocks Road, Aldbury, HP23 5RT

Client
Aldbury C of E Primary and Nursery School

Prepared by
Patrick Stileman BSc(Hons), MICFor, MRICS, Dip. Arb (RFS), RC.Arbor.A

Date
1st December 2023

Ref
TI02102301

1   INTRODUCTION

1.1   I am Patrick Stileman, Director of Patrick Stileman Ltd. I have qualifications and experience in arboricultural consultancy, and I have given details of this in Appendix 3.

1.2   **Brief:** Patrick Stileman Ltd has been instructed by Olwen Bartlett, Office Manager, on behalf of Aldbury Primary and Nursery School to provide an assessment of the risk posed by trees of causing harm or damage through structural failure located at the school. We are to provide recommendations for remedial work as required to reduce the foreseeable risk that they pose to a level which we consider to be acceptable. In addition, we are to advise where obvious work to trees not related to risk management would be beneficial.

1.3   **Report scope:** This report relates to trees located on grounds owned by Aldbury Primary and Nursery School. An assessment of the possible effect that trees may have to structures through changes in soil volume is not included in this report. Trees were inspected from the site and public locations only - I had no access to third-party property.

1.4   **Previous inspection:** We have not previously inspected trees at this site.

1.5   **Method of inspection:** Trees were inspected from ground level based on a technique called Visual Tree Assessment (VTA) in which growth features on trees (body language) are used to interpret internal defects and to assist the assessment of the likelihood of failure. This included a visual examination of each tree using standard tree survey equipment. The inspection did not include detailed investigations such as climbing inspections, soil excavation or use of decay mapping equipment.

1.6   **Tree recording and identification:** Trees were inspected using a system of 'negative reporting'. With this all trees were inspected however only trees assessed to be posing an unacceptable risk of causing harm or damage through structural failure, such that remedial work is required, were recorded. The indicative positions of recorded trees are shown on the Tree Location Plan included on Pages 5 of this document. The Tree Location Plan is based on the OS map purchased for the site. The schedule providing details of recorded trees is included as Appendix 2.

1.7   **Risk assessment:** In order to assess the risk posed by trees in a consistent manner I used a tree risk assessment system called Tree Hazard: Risk Evaluation and Treatment System (THREATS). THREATS scores the three components of risk, being: the likelihood of failure; the nature of the land use within striking distance (the target); and the size of the tree, or part of tree in which failure is being considered. By scoring each of these and multiplying them together, a 'THREAT category' is determined which guides whether or not remedial work is required, and suggested time-scales. For a full description of the THREATS methodology, refer to Appendix 1. The conclusions that I have reached are based on interpretation of my observations using my knowledge and experience.

1.8   **Legal status of trees:** Dacorum Borough Council has a searchable GIS plan on their website enabling members of the public to see the location of trees are that are protected by a tree preservation order (TPO). This shows that there are no trees protected by a TPO at Aldbury Primary and Nursery School.

       The school is located within Aldbury Conservation Area. This designation imposes statutory protection to trees with stem diameters exceeding 75mm at 1.5m above ground level.

1.9   **Site visit:** I inspected the trees at this site on 10th November 2023.

2   SUMMARY OF RECOMMENDATIONS

2.1   The data for each recorded tree is in the schedule, included as Appendix 2. The schedule includes a description of defects observed, an assessment of the risk that each recorded tree poses, and recommendations made for remedial work where I considered that this is required for reasons of risk management.

2.2   In this section I have summarised the work to trees that I have recommended for risk management purposes, including the timescales that I consider the work should be completed within.

2.3   **Table 1: Summary of work required for risk management within 3 months**

Tree No	Species	Work recommended
3	Hawthorn	Reduce all stems by 2-3 metres back to upright growth points to create more compact crown
4	Flowering cherry	Shorten leaning stem on south-east side by approximately 2 metres

2.4   Table 3: Summary of work required for risk management within 12 months

Tree No	Species	Work recommended
2	Hawthorn	Sever ivy stems near ground level
5	Beech	Reduce tree to leave 3 metre height stem, removing long lateral branches. Retain hedge growth below
6	Field maple	Remove lowest branch (west side) back to main stem. Reduce long lateral branch on north-west side by 2-3 metres

2.5   Table 3: Summary of work recommended for reasons other than risk management. No recommended timescale

Tree No	Species	Work recommended
1	Ornamental Apple	Cut 2cm strip in decking to create gap between tree and platform

2.6   **Re-inspection.**   I recommend that the trees are re-inspected by an arboriculturist within three years. I recommend that following severe wind (Force 9 on the Beaufort scale or greater) an arboriculturist undertakes an informal walk-over assessment to look for signs of obvious damage as soon as practicably possible.

3   WILDLIFE

3.1   Nesting birds, bats and bat roosts are protected by law. It is the duty of the contractors to satisfy themselves prior to commencement that neither these, nor any protected species shall be adversely affected by the proposed work. Work should be undertaken in accordance with BS8596:2015: *Surveying for bats in trees and woodland – Guide.*

4   IMPLEMENTATION

4.1   All work is to be carried out in accordance with BS3998 (2010) *Recommendations for tree work*. The contractors should be trained in the work that they are performing; carry public liability insurance (it is for the client to satisfy themselves that a suitable level of cover is held by the contractor; however, £5 million is a minimum level generally considered to be acceptable); and undertake written risk assessments for the work being undertaken. I recommend that a certificate of insurance and site-specific risk assessments should be seen by the client prior to the contractor commencing work.

5   LEGAL CONSIDERATIONS

5.1   The site is located within a conservation area and as a consequence all trees described in this report are covered by statutory legal protection. Written conservation area notification (Section 211 Notice) must be submitted to Dacorum Borough Council detailing the work intended. Work to the trees may not proceed until either a period of 6 weeks has elapsed without a TPO being made, or sooner if the council confirms in writing that they do not object.

6   REPORT LIMITATIONS

6.1   Trees by their very nature will always pose a certain level of risk. This report is not intended to provide recommendations for the complete removal of risks from trees. The report is based on my assessment of the trees and provides recommendations for reasonable levels of management required in order to bring them to a level of risk which I consider to be defensible.
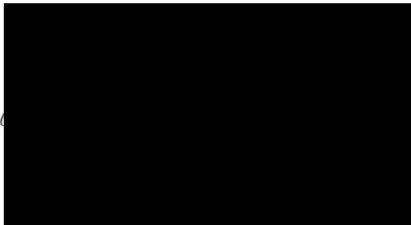
PATRICK STILEMAN BSc(Hons), MICFor, MRICS, Dip.Arb(RFS), RC.Arbor.A
Chartered Arboriculturist. Arboricultural Association Registered Consultant

Playing field

School building
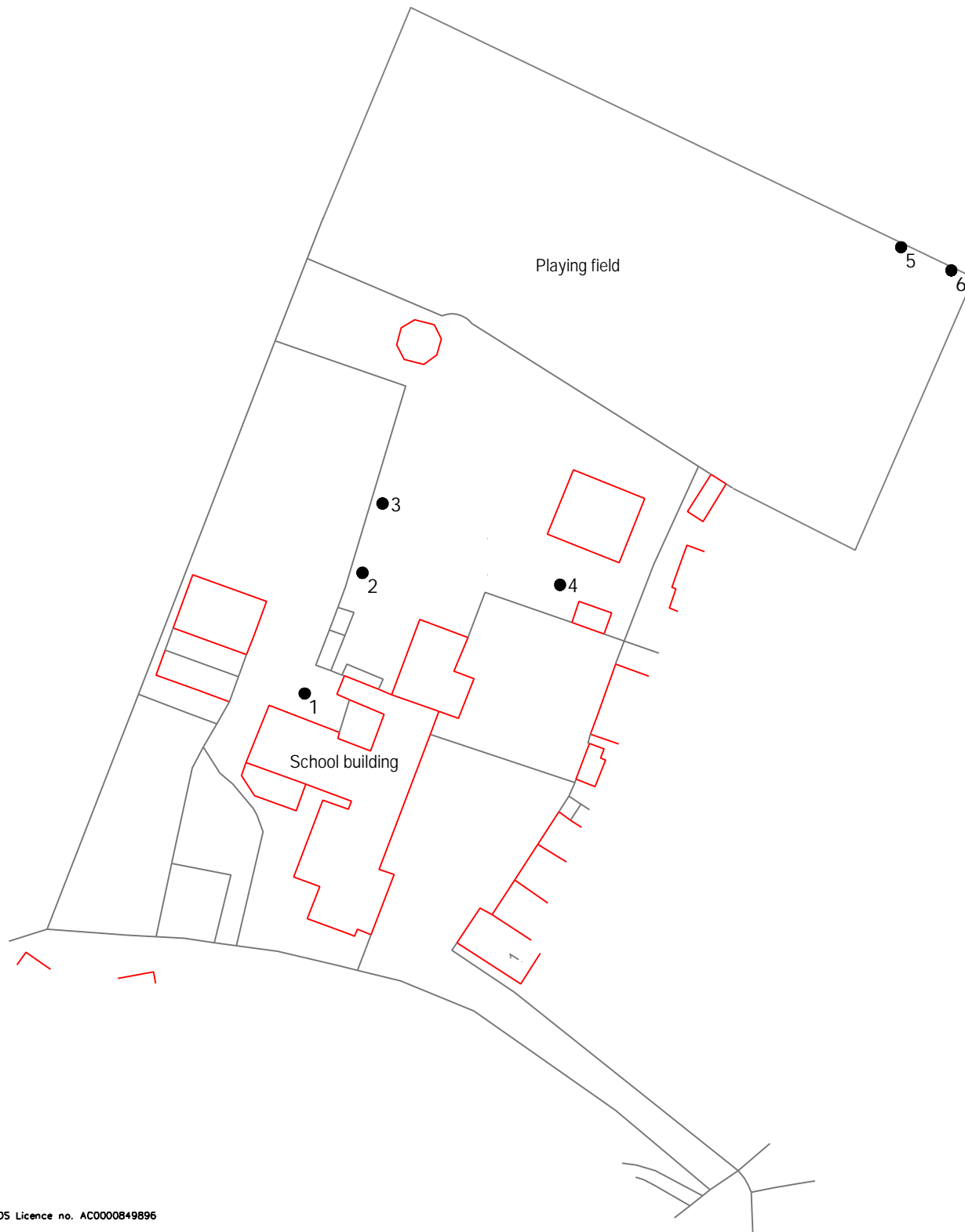
TREE LOCATION PLAN

SITE ADDRESS
Aldbury C of E Primary and Nursery
School, Stocks Road, Aldbury HP24 5RT

CLIENT
Aldbury C of E Primary and Nursery
School

Project Ref
TI02102301

DRAWING NO
TI02102301.1

DATE
01/ 12/ 2023

Patrick Stileman Ltd
9 Chestnut Drive, Berkhamsted, Herts,
HP4 2JL   01442 866112

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KEY

● 3   Approximate position of
        inspected tree

NOTE:

Tree positions have been estimated and are indicative
only.

APPENDIX 1 THREATS METHODOLOGY

THREATS is an acronym for Tree Hazard: Risk Evaluation and Treatment System. It provides a methodology for applying mathematical quantification to the risk posed by trees based on the tree inspector's assessment of the condition of the tree, and its location to provide a consistent and systematic approach to the decision-making process.

THREATS considers in turn the three components that inevitably combine to derive risk, being: the likelihood of failure; the target value (the likelihood of people, or objects of value being within striking range of the tree at any given time); and the likely impact of the defect being assessed if it were to fail.

Each of the three components described above are assessed, and awarded a numerical 'score'. These scores are derived in the following way:

- **Failure Score**: Using training and experience, the assessor identifies defects within the tree, and uses his or her judgement to assess the relevance of these defects. The assessor then chooses the defect with the greatest significance, and allocates one of five scores to that defect based on the likelihood and imminence of it causing failure.

Score	Probability of failure	Example defects
50	Imminent/Immediate	Uprooting; Extreme root loss; Collapsing structure, unimpeded hanging breaks
8	Probable/Soon	Altered exposure; Primary decay fungus; Severe inclusive bark/root loss, Fragile dead wood
2	Likely, foreseeable	Lapsed pollard; Overweight/subsiding limbs; Poor stem taper; Dieback
.8	Potentially with time	Early development of inclusive bark; Robust dead wood
0	Unlikely ever	Tree generally free of defects, or insignificant defects only

- **Target score**: This describes the relative value of the land use within likely striking distance of the component part affected by the selected defect. It also takes into account the likelihood of human occupancy at any given time. The assessor selects one of the following six scores:

Score	Value	Static target examples	Target occupancy examples
40	Very high	Building 24 hour use, railway	Constant vehicular traffic/busy playground
25	High	Building 12 hour use, ≥11Kv power lines	Frequent vehicular traffic/constant pedestrian use
20	Medium	Building/structure occasional use, <11Kv lines	Peak times traffic/intermittent use, eg commuter run
15	Low	Garage, Summer house, Listed wall	Occasional traffic/sporadic use, eg slow country road
7	Very low	Unlisted wall, paving, garden features	Infrequently used access/public right of way/bridleway
0	None	Grass	Hardly ever used, eg remote path

- **Impact score**: The assessor makes a judgement on the likely consequences should the defect being assessed cause failure of the tree or part of tree in question if the target beneath it is occupied. The assessor selects one of the following four scores:

Score	Degree of harm and consequences (examples)	Agent: trees, mm, or branches, kg (size/weight for guidance only)		
10	Severe structural damage, vehicles crushed – passenger fatalities very probable	VL	> 750mm	> 500kg
6	Moderate structural/ severe vehicle damage –fatal/disabling injuries likely	L	350-750mm	50-500kg
4	Minor damage/probable disabling/hospitalising injury to pedestrians	M	100-350mm	10-50kg
1	Fragile objects destroyed, superficial/recoverable injury to pedestrians	S	< 100mm	< 10kg

The three scores derived from the methodology described above are multiplied together to provide a 'hazard rating'. The hazard rating score will fall into one of seven 'threat category' score ranges, from 1 'insignificant' to 7 'extreme'. The threat category that is finally reached determines whether or not remedial work is required, and a timescale in which any remedial work should be carried out, or the tree re-inspected.

The following is an extract from the THREATS survey sheet, indicating the score ranges (derived from a multiplication of the three scores listed above), the 'threat category' that these score ranges fall into, and whether or not intervention is required based on the threat category, with timescales.

Score range	Threat Category	Recommended action & Completion deadline
4000+	7- Extreme	Evacuate/prevent access to impact site, emergency call-out of contractors
2001-3999	6- Serious	Close site if practical; arrange for work to be completed within 7 days
1000-2000	5- Significant	Arrange for work to be completed within one month maximum
350-999	4- Moderate	Remediate within 3 months, re-inspect after gales in the meantime (Force 7+)
160-349	3- Slight	Re-inspect annually/after storms (Force 10+), expect to schedule work within 2 yrs
50-159	2- Minimal	Re-inspect within 3 yrs if adjacent to public access, schedule work as required
0-49	1- Insignificant	Re-inspect within 3 yrs if Target Score = 20, 25 or 40. Otherwise reassess within 5 years.

APPENDIX 2

TREE SCHEDULE

Explanatory notes

- **Tree:** Tree number allocated to each tree during the survey. Where trees form distinct groups in which we considered it unnecessary to select trees individually, the prefix G is given.

- **Species:** The common English species name is used. If there is uncertainty regarding species a ? is used.

- **Age class:** An estimate the approximate stage of the tree's life, where Y = young, SM = semi-mature, EM = early-mature, M=mature, OM = over-mature or veteran.

- **Diam & Hgt:** The size of the tree is based on the estimated trunk diameter (at 1.5m above ground level) in millimetres, and the estimated height of the tree in metres.

- **Condition, observations and defects:** A brief description of the tree's condition, with the principal defects described. The primary defect considered for the THREATS assessment is highlighted **bold**.

- **FS:** Failure score (See Appendix 1)

- **TS:** Target score (See Appendix 1)

- **IS:** Impact score (See Appendix 1)

- **Score:** The hazard rating score is derived by multiplying FS, TS and IS.

- **Threat Cat:** Threat category from a range of 1 'insignificant' to 7 'extreme'. See Appendix 1.

- **Recommendations:** Based on the Threat Category, the decision is made whether or not remedial work is required, and in what timescale if it is. Recommendations made are based on our knowledge and experience.

- **Time scale:** Maximum timescale required for either the work recommended as stated in the previous column, or future re-inspections to be carried out.

Tree schedule

Tree	SPECIES	Age class	Diam (mm) + Ht (m)	Condition, Observations and defects	FS	TS	IS	Score	Threat Cat.	Recommendations	Time scale
1	Ornamental Apple	M	250 4	No defects seen of apparent structural significance. Decking platform around base, with decking abutting edge of tree. No room for tree expansion.	-	-	-	-	-	Cut 2 centimetre strip in decking to create gap between tree and platform	-
2	Hawthorn	M	350 x3 10	Multi-stemmed from ground level. Stems on east side are leaning and have **heavy ivy to top**, raising failure hazard.	2	20	6	240	3	Sever ivy stems near ground level	1 year
3	Hawthorn	OM	400 x3 8	Multi-stemmed from 1 metre. **Unions appear to be weak with decay and bark inclusions present**. Heavy past crown reduction, but stems are at low angles and assessed to be vulnerable to failure. Die-back in top.	8	20	4	640	4	Reduce stems by 2-3 metres back to upright growth points to create more compact crown	3 months
4	Flowering cherry	EM	350 9	Long lateral stem on south-east side **has gap developing** adjacent to remaining crown and appears to be subsiding.	8	15	4	480	4	Shorten leaning stem on south-east side by approximately 2 metres	3 months
5	Beech	SM	200 8	Growing in hedgerow adjacent to field approximately 10 metres from southern end. **Severe damage caused by squirrels** has resulted in one branch failing and two further branches vulnerable.	8	7	4	224	3	Reduce tree to leave 3 metre height stem, removing long lateral branches. Retain hedge growth below	1 year

Tree	SPECIES	Age class	Diam (mm) + Ht (m)	Condition, Observations and defects	FS	TS	IS	Score	Threat Cat.	Recommendations	Time scale
6	Field maple	SM	250 7	Very heavy crown asymmetry over school field. **Long, over-extended branch on west side has severe squirrel damage on upper surface** and is vulnerable to failure. I am advised that the branch is swung on by children. Branch on north-west side is over-extended and has squirrel damage.	8	7	4	224	3	Remove lowest branch (west side) back to main stem. Reduce long lateral branch on north-west side by 2-3 metres	1 year

APPENDIX 3.

Qualifications and experience of Patrick Stileman BSc(Hons), MICFor, Dip.Arb(RFS), RC.Arbor.A

I am Patrick Stileman, Director of Patrick Stileman Ltd Arboriculltural Consultancy.

My qualifications in arboriculture are as follows:

National Certificate in Arboriculture N ch(arb)

The Arboricultural Associations Technicians Certificate Tech.Cert (Arbor.A)

The Royal Forestry Society's Professional Diploma in Arboriculture Dip.A rb(RFS)

In addition to the qualifications listed above which are specific to the field of arboriculture, I also hold an Honours degree in Environmental Science BSc(H ons).

I hold chartered status, being a Chartered Arboriculturist and professional member of the Institute of Chartered Foresters M IC For. I am a professional member of the Royal Institution of Chartered Surveyors MRICS.

I am a Registered Consultant with the Arboricultural Association, a scheme for which I am also an assessor.

I am a trained expert witness, and hold the Cardiff University Bond Solon Expert Witness Certificate.

I am a member of the Royal Forestry Society.

I have been working in the arboricultural industry since 1994 and as a consultant since 2001. I am frequently instructed by professionals to provide advice and assistance relating to trees within the planning process; I have a wide client base in this field including developers, architects, planning consultants, and Local Planning Authorities. I am experienced with providing arboricultural input in planning appeals as written representation, informal hearing and public local inquiry.

I am regularly instructed to assist with tree risk assessments, and to provide guidance relating to tree safety. Past clients for this work include local authorities, schools, residents' associations, large organisations including zoos and estates, and private individuals.

I provide advice in relation to alleged tree-related damage to buildings.   Clients for this work are typically domestic homeowners, but have also included local authorities. Other work that I undertake involves the provision of tree planting schemes; and advice relating to the general management of trees.

I have worked as an arboricultural expert witness for public and private sector clients in both civil and criminal cases.

Prior to running my current consulting practice, I was a partner in an arboricultural contracting business in which I was involved with the practical aspect of organising, and execution of contract tree work.