



Ariel Inspections/Hazard Assessments

At

**National Horse Racing Museum
Palace House
Palace Street
Newmarket
Suffolk
CB8 8EP**

ARIEL INSPECTIONS AND HAZARD ASSESSMENTS

The brief of this report was to carry out further investigation of trees marked for Ariel inspections and/or Hazard Assessments. The trees being assessed were first noted in a site survey carried out in Oct 2020 with a follow up survey completed on Tuesday 5th September 2023.

Ariel inspections were identified as being required for the following trees, marked on the site survey as T1 & T2. **T6 was also marked for further diagnostic testing due to a large basal wound/bleeding canker first identified in Oct 2020.**

The site visit was carried out by me in the company of Jay Edmondson, on Saturday 11th November 2023.

I have based this report on my site observations and the provided information. I have come to conclusions in the light of my experience and technical knowledge. Where references have been made and noted, it is widely accepted that the authors authority on the matter is beyond dispute e.g. Prof. Dr. C Mattheck, Dr. K. Bethge.

BTEC Extended Level 3 Nat Dip in forestry and arboriculture (QCF).

Triple graded qualification with distinctions.

13 years' experience as an Arboriculturist in associations with:

Peninsula Forestry

J L Treecare

SPC Trees & Landscapes

Anglia Tree Contractors

Gardens Arb Ltd

Owen Akers Tree Surgery Specialist

Ariel inspections were carried out using a standard pro forma for hazard evaluation as recommended by the International Arboricultural Association, "Guide to the Evaluation of Hazard Trees in Urban Areas".

References for hazard assessment and further research for amenity trees;

Diagnosis of Ill-health in Trees, by R.G Strouts & T.G Winter (1994, revised 2000).

The Body Language of Trees: A Handbook for Failure Analysis, by Prof C Mattheck & H. Breloer (1995).

Principles of Tree Hazard Assessment and Management, by D. Lonsdale.

TREE SURVEY SCHEDULE

Ref no	Species	Ht (ft)	Stem Diam (mm)	Crown spread (m)			Life Stage	Structural Condition/Description	Management recommendations
				N	E	S			
T1	<i>Aesculus hippocastanum</i> "Horse Chestnut"	65+	1608	4	4	4	6	SM-EM Fair – Fair form. Crown asymmetry. Dead wood present within canopy above 50mm. No fruiting bodies at time of inspection. Congested crown on W side – response to pruning. Ivy swamped tree/base. Poor pruning cuts – stubs left. Leaf minor evidential affecting majority of crown. Building debris at base. Evidential crown lifting/pruning on E side of T1 affecting crown symmetry – School side.	<p>***T1 is of HIGH priority***</p> <p>***Ariel Inspection Required***</p> <p>Minimum recommendations:</p> <p>Ivy management.</p> <p>Deadwood/crown clean/thin and lift canopy to 5 metres – Consideration for pollard dependent upon Ariel inspection.</p> <p>Consideration for removal and replant due to historic limb loss and prior evidence of bleeding canker at base during last survey Oct 2020</p> <p>– T1 was cleared for removal In Feb 2021 – Notification No: DC/21/0057/TCA</p> <p>Recommend replant/replace T1 if removed</p> <p>***Next review - N/A ***</p>

Upon results of Ariel inspection's completed on Saturday 11th November 2023 the following hazards were noted and the recommendations are as follows:

- T1 – Decay/Hollow on main stem identified during Ariel assessment.

There is a hollow cavity on the main stem at approx. 20-25ft. This is either an old incorrect pruning wound or a prior limb failure most likely due to storm damage. There are evidential attempts by T1 to compartmentalize this area however the wound is in my opinion too extensive and the initial damage caused a tear past the branch collar. T1 will never fully compartmentalize this wound. In addition the size of the hollow cavity was measured along with the radius of the stem and the thickness of the residual wall using T/R ratio. The size of the stem was measured and the radius noted. The thickness of the residual wall (the area of compartmentalisation due to C.O.D.I.T) was also taken but the levels exceeded the 70% threshold. The cavity also extends both up and down the main stem to over 2.5ft deep. There was also evidence of bleeding canker at the base (noted in Oct 2020) most likely from *Pseudomonas syringae* pv. *aesculi*. In rarer cases bleeding canker can also be caused by *Phytophthora*.

Due to the presence of bleeding canker and most notably a large stem cavity, **I recommend T1 be felled to ground level**. I do not see the benefit to monolith/pollard T1 below the cavity point due to the presence of bleeding canker at the base and also the close proximity of targets and persons due to the school playground being both behind and underneath T1.

– T1 was cleared for removal In Feb 2021 – Notification No: DC/21/0057/TCA

*****Remove T1 To Ground Level – Replant/replace*****

TREE SURVEY SCHEDULE

T2	<i>Aesculus hippocastanum</i> "Horse Chestnut"	50+	630	2.5	3	3	SM	Fair - Fair form. Minor asymmetry due to co dominant crown with T3. No fruiting bodies at time of inspection. Evidential large limb loss approx. 10 m. Stub cuts remain from prior pruning. Leaf minor evidential. Ivy covered tree.	<p>***T2 is of Medium priority***</p> <p>***Ariel Inspection Required***</p> <p>Crown raise to 4 metres.</p> <p>Clean/thin canopy.</p> <p>***Next review in 3 Yrs***</p>
----	---------------------------------------------------	-----	-----	-----	---	---	----	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

- T2 – Large limb loss identified during site survey.

Ariel inspection of T2's crown shows active signs of compartmentalisation. No hazards detected.

Crown raise to 4m.

Clean and thin canopy.

TREE SURVEY SCHEDULE

T6	<i>Aesculus hippocastanum</i> "Horse Chestnut"	50+	685	4	4	3	SM	Fair - Fair form. Leaf minor evidential affecting majority of crown. Cluttered canopy. Building debris at base. Ivy at base. No fruiting bodies at time of inspection however – evidence of exudate at base. Prior survey dated Oct 2020 advises possibly Phytophthora. Evidence of Mycelium attachments to main stem/buttrass possibly through bracket fungus (<i>Ganoderma</i> spp) displaying annular ring growth patterns. Unable to confirm.	<p>***T6 is of High priority***</p> <p>***Tomographic Testing Required***</p> <p>Consider Remove To Ground Level - dependent upon results.</p> <p>Recommend replant/replace T6 if removed</p> <p>***Next review – N/A***</p>
----	---------------------------------------------------	-----	-----	---	---	---	----	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

- T6 – Large stem wound at the basal buttress oozing exudate. First noted in Oct 2020 identified as possibly being Phytophthora or more likely from *Pseudomonas syringae* pv. *aesculi*.

Due to the size of the wound, exudations (and the fungus/bacteria' presence having being first detected in October 2020), together with a detailed investigation of the wound itself, it is of my opinion the infection has reached the cambium and therefore sealing is only possible from the edges of the infection. This has led to the wound being exposed for many years which **will lead to decay**.

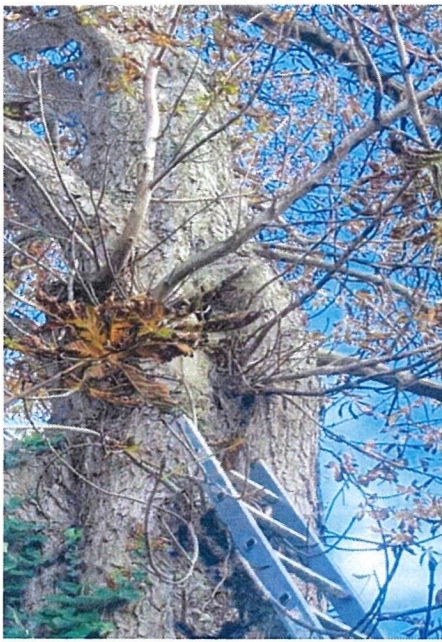
There are no known chemical controls.

White mycelium present may indicate a secondary infection from honey fungus however there were no fruiting bodies at the base at time of inspection. The possibility of secondary infection is of concern. The infection has become so extensive internally over the years that large areas of bark have broken away.

Due to the fungal/bacterial strategies in play and the close proximity of T6 to nearby targets (A school playground is immediately behind/underneath T6), **I recommend T1 be felled to ground level.**

*****Remove T6 To Ground Level – Replant/replace*****

Appendix 1: Pictures of T1



cavity

Fig 1: Main stem cavity with attempted compartmentalisation.



Fig 2: T1 main stem

Appendix 1: Pictures of T6



Fig 3: Extent of buttress wound – N.B; loss of bark and colour of exudation
Bleeding canker has been present on main stem since October 2020.