



Friday 30th September 2022

Arboricultural Assessment – Reserve 48279 Old Broadwater Farm

Prepared for: The City of Busselton

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Quantified Tree Risk Assessment –
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1.0 Introduction

1.1 Scope of Works

The scope of this report is to inspect a tree located in Reserve 48279 Old Broadwater Farm and make recommendations in relation to damage/lifting of a paved surface (Basketball Court).

1.2 Methodology

An inspection of the tree was undertaken on Thursday 29th September 2022 comprising a visual inspection from ground level using the Visual Tree Assessment (VTA) method.

This assessment did not involve any excavation for belowground inspection.

2.0 Tree Condition Assessment

2.1 Visual Tree Assessment

VTA comprises the assessment of predictable symptoms associated with tree failures and / or tree disorders that culminate to form visual tree condition. This process is accepted by professional arborists as being a first measure in the assessment and management of urban trees.

The assessment is conducted visually from ground level or under binocular view. In order to achieve clear viewing the assessor may initiate clearance of vines or plant clutter from around tree base, upon tree main stems, within main branch unions or other key locations prior to conducting the assessment itself. Hand tools and data recording equipment are commonly employed during VTA.

In the event the VTA process is deemed by as being insufficient in determination of a trees condition then further measures of an exploratory or investigative nature may be recommended. Employment of specialist tools, sophisticated measuring instruments and laboratory-based analysis are a few of the investigative activities that may be adopted by the assessor as additional diagnostic tools in support of VTA.

2.2 Tree Health & Structural Condition

Tree health condition is determined in the field by observing multiple factors affecting tree health. Tree health is categorised into four categories;

Good – Foliage colour and density normal for the species. No major pest or disease problems. Tree vigour is good.

Fair – Foliage slightly chlorotic or wind-burnt, foliage density slightly sparse, minor pest or disease problems, tree vigour ok.

Poor – Foliage sparse, chlorotic or otherwise affected by pest or disease. Tree vigour low.

Dead – Tree is dead

Tree structure is determined in the field by observing the trunk and branch architecture and observable factors affecting the trees structural root zone and is categorised into three categories;

Good – No observable structural root issues, branch unions appear sound, any defects appear well optimised

Fair – No observable structural root issues, defects present in branch unions of 2nd order limbs or smaller and/or reaction-wood present at defects in 1st order limbs but not yet optimised.

Poor – Structural roots compromised through damage or decay or both or serious defects present in trunk or 1st order limbs.

3.0 Findings

3.1 The Site

The subject tree is located within a City of Busselton Reserve which comprises Playing fields, Cricket Nets, A Basketball Court and other associated infrastructure. The tree is located at the western edge of the Basketball Court.



Figure 1: Location of subject tree (red arrow)

3.2 The Tree

The subject tree is identified as a *Eucalyptus rudis* (Flooded Gum) – a species endemic to Western Australia. The tree has an approximate height of 10m and a trunk diameter at 1.4m above ground (dbh) of 0.8m (2 x 400mm stems).

This tree has quite unusual form from ground level which may be a result of it being an old coppice stump or having root heaved in the past and a new crown having emerged from the fallen trunk. There is quite significant decay within the root buttress and lower trunk but given the relatively small crown area and good reactive growth, there appears to be adequate sound wood for structural support.



Figure 2: Looking west at the subject tree from the adjacent Basketball Court



Figure 3: The unusual form of the base of the tree

The tree is twin stemmed from ground level and has quite poor structural form with decay in the trunk and scaffold branches. There is also a fair amount of dead wood present throughout the crown.

Tree health is good although this species is quite susceptible to seasonal insect infestation and it would be normal to see leaf dieback in the summer months caused by psyllid infestation.



Figure 4: Decay within one of the main stems

3.3 Infrastructure Damage

This tree is located 1.2m from the edge of the asphalt Basketball Court. There is significant mounding and cracking of the surface of the court.



Figure 5: Mounding and cracking of the Basketball Court surface.

4.0 Conclusion

The location of this tree in close proximity to the Basketball Court and the observed damage to the court surface presents a conflict with regard to the safety of users of the facility.

One option to mitigate the damage could be to remove (grind) the offending roots and repair the court surface. Australian Standard AS4970 – 2009 Protection of Trees on Development Sites provides guidance for determining the Structural Root Zone (SRZ) of a tree based on its diameter at ground level. The SRZ is an area around the base of a tree required for the tree's stability in the ground. The SRZ is expressed as a radius in metres that defines a circle with the trunk/stem at its centre.

Using the formula provided in AS 4970 the SRZ for the subject tree is calculated as a radius of 3.3m.

With the closest point of the basketball court being 1.2m from the tree, the grinding of the offending roots is not feasible as it would mean the removal of structural roots required for the trees stability. Similarly, the installation of a root barrier is not feasible for the same reason – it would require the severance of roots within the SRZ.

Given that these structural roots need to be removed in order to repair the damage to the court surface, the subject tree will need to be removed completely in order not to leave it in a structurally compromised state.

5.0 Disclaimer

The advice contained herein including all attachments has been provided in good faith and based upon the material information available, collected by the consultant or provided by others at the time the advice was given.

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