

**ARBORICULTURAL IMPACT ASSESSMENT - DEVELOPMENT OF
NEW PRIMARY SCHOOL GOOGONG NSW - 2021.**

1. INTRODUCTION.

This ARBORICULTURAL IMPACT ASSESSMENT accompanies an Environmental Impact Statement (EIS) pursuant to Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act) in support of an application for a State Significant Development (SSD-10326042).

The development is for a new primary school located on land bound by Gorman Drive, Aprasia Avenue, Wilkins Way and McPhail Way in Googong.

This report addresses the relevant Secretary's Environmental Assessment Requirements (SEARs), namely:

- *Point 3 – Trees and Landscaping.*
 - *Provide;*
 - *Where street trees are affected by the proposed development, an arboricultural impact assessment prepared by a Level 5 (Australian Qualifications Framework) Arborist, which details the number, location and condition of trees to be removed and retained, includes detailed justification for each tree to be removed.*

2. THE PROPOSAL

The proposed development is for construction and operation of a new primary school in Googong that will accommodate up to 700 students.

The proposed development is a Core 35 school and includes:

- A collection of 1-2 storey buildings containing 30 home base units, 3 special education learning units, canteen, hall, library and administrative facilities.
- On-site carpark with 60 spaces and on-street kiss-and-ride facilities.
- Outdoor sports court and play area.
- Integrated landscaping, fencing and signage.

3. SCOPE AND PURPOSE.

Mr Paul Todhunter Project Manager with Hansen Yuncken Pty Ltd has commissioned this report – he can be contacted on 02 9770 7600. The site was formally inspected on Saturday 24 April 2021.

The report is designed to provide;

- accurate identification of tree vegetation,
- tree condition, including any hazards present
- evaluation of the trees relative to their contribution to the environment, amenity and any other identified values
- evaluation of potential development impacts
- recommendations for management of the issues identified.

Interpretation of impacts and recommendations are based on the author's interpretation of *Australian Standard 4970-2009 Protection of trees on development sites*.

The following documents/ plan were provided to aid in the impact assessment.

Planning Secretary's Environmental Assessment Requirements – New Primary School at Aprasia Avenue Googong (Lot 3 DP 1179941). SSD-10326042 dated 20 November 2020.

Detail Survey Lot 3 DP 1179941 Locality – Googong LGA - QPRC. Job No 20011 Drawing Reference 20011_001. Original Issue 30/4/2020. Steger & Associates Kambah ACT. [Document is duplicated](#) at the conclusion of this report.

Overall Site Plan – New Primary School in Googong – Gorman Drive. Pedavoli Architects (GOOG – SK – CDR_001 Rev B dated 30 March 2021.) [Document is duplicated](#) at the conclusion of this report.

SSD Concept Review Aprasia Avenue Kiss and Ride. 1566 - Googong Public School. Drawing number AG01. 6/5/2021. Ason Group Sydney.

SSD Concept Design Review – Swept Path Assessment – 1566 Googong Public School. Drawing number AG07. 6/05/2021. Ason Group Sydney.

[Diagram one](#) provides the location of the site.

[Diagram two](#) provides trees identified as potentially impacted- and reported in Table 1.

[Table one](#) provides a list, details and recommendations on the trees identified.

General [evaluation criteria](#) is contained at the conclusion of the report.

4. Site Description.

The site is located at Aprasia Avenue, Googong, and is formally described as Lot 3 DP1179941 (refer to Figure 1). The site is irregular in shape and has an area of 28,118.39m².

The site is located within the Queanbeyan-Palerang Regional Council local government area approximately 10km south of the Queanbeyan Central Business District.

The site is bordered by Aprasia Avenue to the north, Gorman Drive to the southwest, Wilkins way to the east/southeast and McPhail way to the west.

Googong North Village Centre, which contains a child care centre, supermarket, cafes and take-away food outlets, is located approximately 100m west of the site across McPhail Way. The site is otherwise surrounded by low density residential development.

Googong is a recently developed town, with the planning beginning in the early 2000s and the first residents taking up residence in 2014.

Local Council (Queanbeyan-Palerang Regional Council) have established new street trees on all four streets joining the development site described as approximately 2 to 5 years of age. There are a total of 53 young street trees that border the proposed development as follows.

- a. Gorman Drive - 12 *Platanus x acerifolia* (Plane Trees)
- b. Wilkins Way – 25 *Eucalyptus cinerea* (Argyle Apple)
- c. Aprasia Avenue – 10 *Quercus palustris* (Pin Oak).

- d. McPhail Way – 6 *Eucalyptus species* (unidentified species).

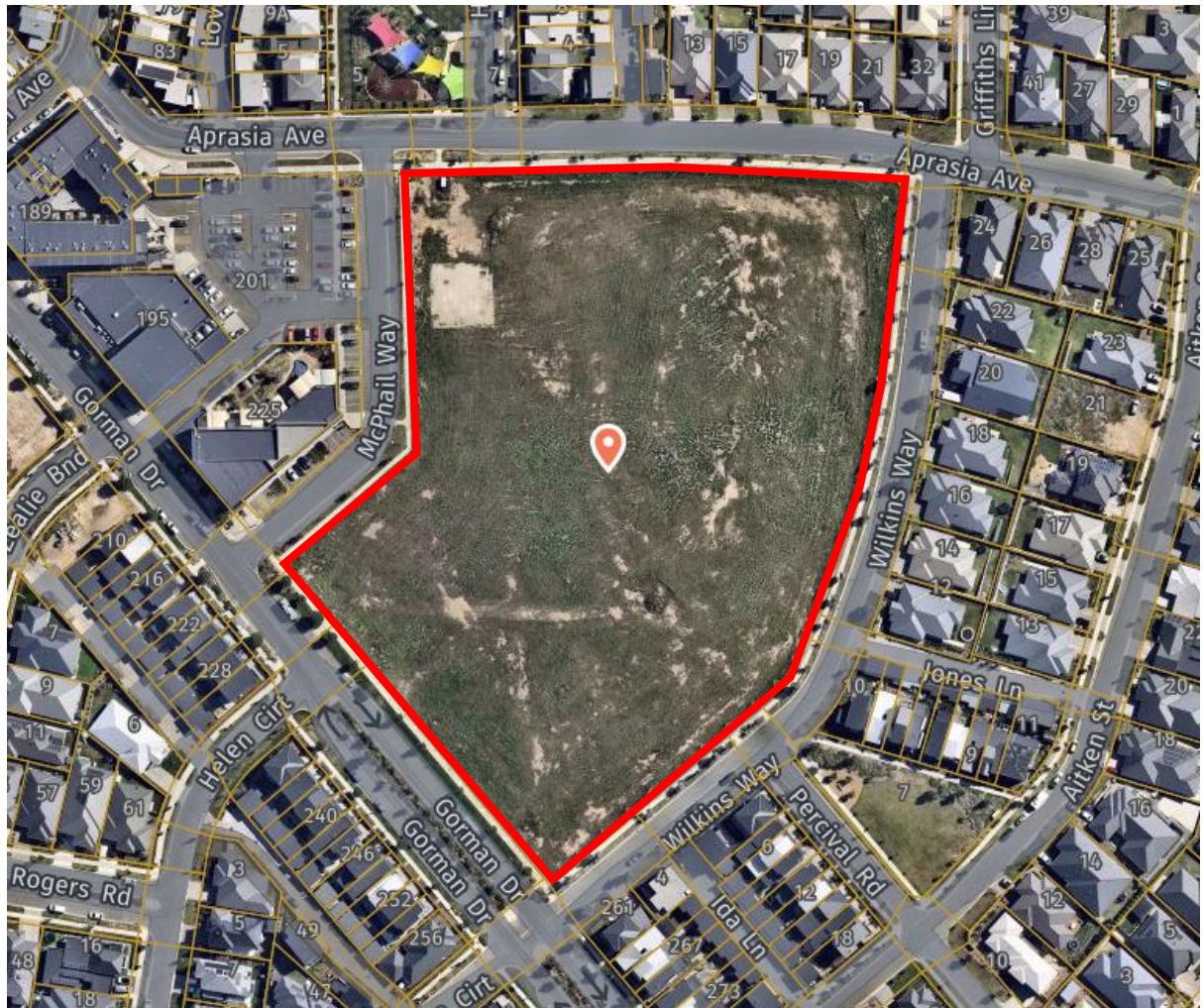


Diagram 1: Site aerial photograph - Source: Nearmap

Location of site with approximate boundary indicated by red lines. There is a total of 53 young trees established by local council immediately outside the development area along the red lines. Source – Google Maps 2021.

The Detailed Survey plan (as referenced above) contains a Tree Table with some 149 Trees plotted around the development site and roads and streets in the vicinity. Many of these trees present as not impacted by the development.

Tree numbers were allocated within the Detailed Survey Plan have been maintained in this report for consistency. The detail in the Detailed Survey Plan Tree Table is for practicable purposes correct. NOTE that the tree numbers are not sequential in many instances. This report address only the trees that are likely to be impacted by the development – Table 1 below.



Photo 1 – Street verge of Gorman Drive – South boundary of development.

Young Platanus x acerifolia (Plane Trees) have been established by the local council. The Development site is delineated by the temporary fencing to the left of shot. Part of a line of 12 trees identified as impacted by development.



Photo 2 – Street verge of Wilkins Way – East boundary of development.

Young Eucalyptus cinerea (Argyle Apple) have been established by the local council. The Development site is delineated by the temporary fencing to the right of shot. Part of a line of 25 trees identified as potentially impacted by development.



Photo – Street verge of Aprasia Avenue – north boundary of development.
Young Quercus palustris (Pin Oak) have been established by the local council. The Development site is delineated by the temporary fencing to the left of shot. Part of a line of 10 trees identified as impacted by development.



Photo 4 – Street verge of McPhail Way – west boundary of development.

Young Eucalyptus species (not identified to species) have been established by the local council. The Development site is delineated by the temporary fencing to the left of shot. Part of a line of 6 trees identified as potentially impacted by development.

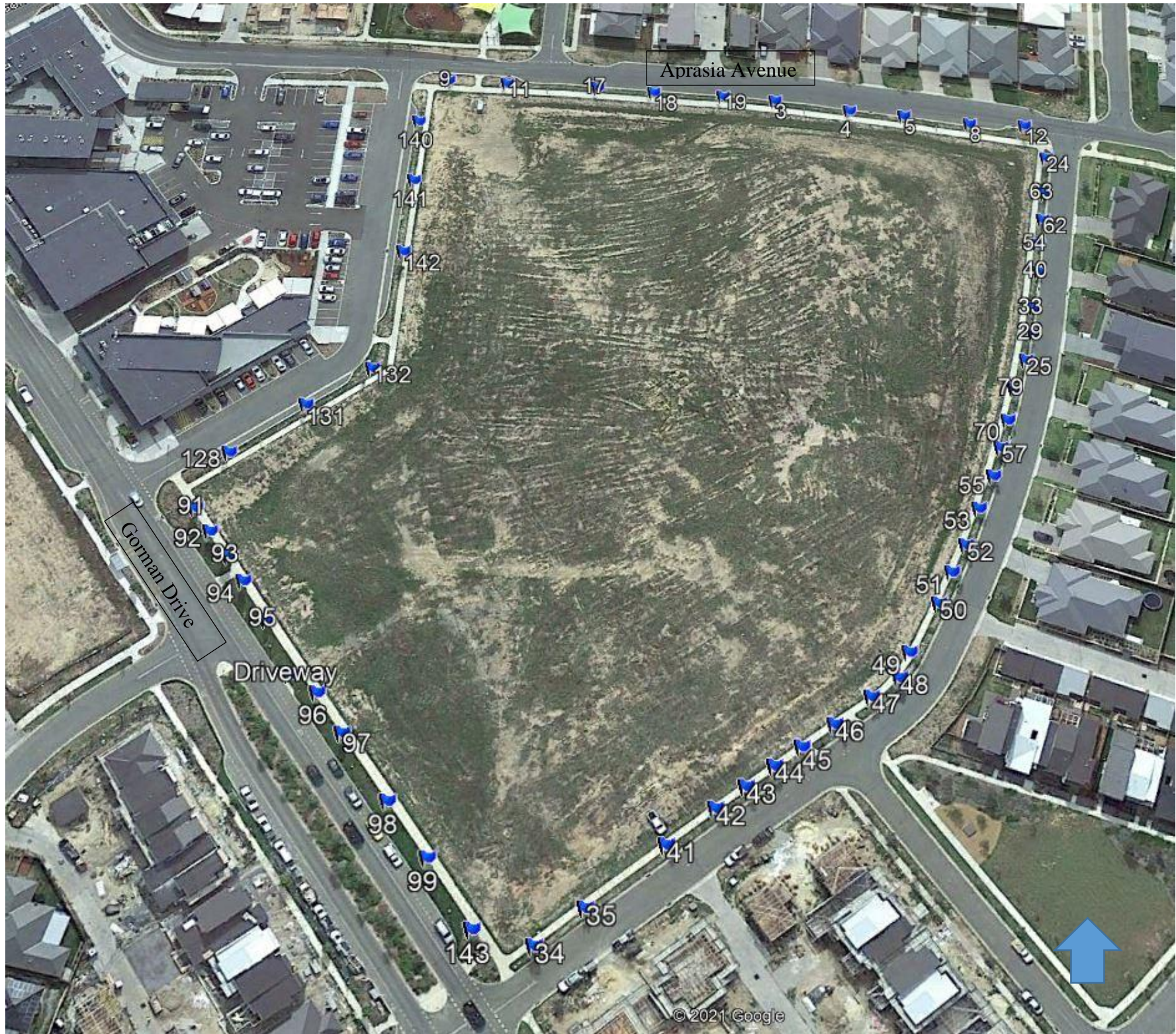


Diagram 2 – Development site bounded by local council street trees.

Tree numbers have been duplicated from the detailed survey plan. Note tree number are not sequential.

All trees have an effective Tree Protection Zone of 2m radially from stems.

Adapted from Google Earth 2021.

5. Tree Inspection, Impacts and Recommendations.

I can confirm that the development site contains no vegetation that qualifies as a tree; QPRC (2021a) and QPRC (2021b). There is no existing canopy coverage.

There are 53 young trees on QPRC controlled land that may or will be impacted by the proposed development. There are no significant trees. The following potential impacts are identified.

1. Access and egress to the development site for plant, machinery and materials – physical or direct impact to a tree.
 - a. It was noted that there is one current driveway located off Gorman Drive.
 - b. The development site is currently delineated by a temporary fence around the whole perimeter – it is assumed that pedestrian traffic will to some degree maintain use of the footpaths and that there will need to be controlled access and egress from the within the site and the current perimeter fence will be located in a similar location.
2. As per the Overall Site Plan, the development plans to develop a ‘Kiss and drop’ area on Aprasia Avenue which will require the movement of the current kerb location to the south – directly impacting some of the newly planted council trees.
3. As per the Overall Site Plan the kerb alignment on Gorman Drive may be moved north – and potential impacts exist to these Council Trees.

Table 1 – Identified Trees – Details and Impacts.	
Tree Details	Evaluation Potential Impacts & Recommendations.
<p><u>Council Trees in Gorman Drive.</u> Tree numbers 91, 92, 93, 94, 95, 96, 97, 98, 99, 143 In Sequence from McPhail Way to Wilkins Way</p> <p><u>10 Small <i>Platanus acerifolia</i> (London Plane).</u></p> <p>Species Exotic. Stems 70 to 100mm diameter. Height 6-8 meters. Canopy spread 2-3 meters. Condition and vigour Good to Excellent. Environmental Rating – Very Low. Expected useful life 40 years +.</p> <p>Tree Protection Zone (TPZ) 2m radially based on minimum area for a tree.</p>	<p>Trees present as sound young trees with long life expectancy. Council has invested time and resources to establish these trees to this point and would likely be keen to retain them.</p> <p><u>Recommendation - Retain and protect if possible.</u></p> <ul style="list-style-type: none"> General impacts to the canopy or stem from development – site access - movement/storage of plant and materials. As per supplied drawings the kerb realignment in Gorman Drive will directly impact trees numbered 92, 93, 94, 95, 96, 97, 98, and 99. <p><u>Recommendations.</u></p> <ol style="list-style-type: none"> If these trees are not outside the development fencing then erect fences around each tree so that at least 2m radially is provided for each tree. The kerb realignment is required to come up to the stems of the tree above and the trees will be required to be removed and replaced. <ol style="list-style-type: none"> An impact to the TPZ of 0.5m on the south side only would considered an acceptable impact, however remedial actions will likely be required. IF this is to occur then the trees will require further assessment from Level 5 Arborist to determine specific remedial actions.
<p><u>Council Trees in Wilkins Way.</u> Tree numbers 34, 35, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 55, 57, 70, 79, 25, 29, 33, 40, 54, 64, 62, 24. In sequence from Gorman Drive to Aprasia Avenue.</p> <p><u>25 Small <i>Eucalyptus cinerea</i> (Argyle Apple)</u></p> <p>Species endemic to immediate area. Stem diameters 70mm to 100mm. Heights 3-7 meters, canopy spread 2-3 meters. Trees described as in good to excellent condition and vigour. Environmental Rating – Low. Expected useful life 40 years +.</p> <p>Tree Protection Zone (TPZ) 2m radially based on minimum area for a tree.</p>	<p>Trees present as sound young trees with long life expectancy. Council has invested time and resources to establish these trees to this point and would likely be keen to retain them.</p> <p><u>Recommendation - Retain and protect if possible.</u></p> <ul style="list-style-type: none"> General impacts to the canopy or stem from development – site access movement/storage of plant and materials. <p><u>Recommendations.</u></p> <ol style="list-style-type: none"> If these trees are not outside the development fencing then erect fences around each tree so that at least 2m radially is provided for each tree.

<p><u>Council Trees in Aprasia Way.</u> Tree numbers 12, 8, 5, 4, 3, 19, 18, 17, 11, and 9. In sequence from Wilkins Way to McPhail Way.</p> <p>10 small <i>Quercus palustris</i> (Pin Oak). Exotic Species. Stem diameters 50 to 100mm. Heights 4 to 6m canopy spread 2-3 meters. Condition and vigour good to excellent. Environmental Rating – Very Low. Expected Remaining useful life 40 years +. Tree Protection Zone (TPZ) 2m radially based on minimum area for a tree.</p>	<p>Trees present as sound young trees with long life expectancy. Council has invested time and resources to establish these trees to this point and would likely be keen to retain them.</p> <p><u>Recommendation - Retain and protect if possible.</u></p> <ul style="list-style-type: none"> • General impacts to the canopy or stem from development – site access movement/storage of plant and materials. • As per supplied drawings the kerb realignment in Aprasia Avenue will directly impact trees numbered 8, 5, 4, 3, 19, 18, & 17. • Kerb realignment may impact trees 12 and 11. <p><u>Recommendations.</u></p> <ol style="list-style-type: none"> 4. If the kerb is to be realigned then trees listed above 8, 5, 4, 3, 19, 18, 17, will require removal and replacement. 5. Any trees in the line not to be removed should have fencing erected at least 2m from the stem for protection for impacts to the trees.
<p><u>Council Trees in McPhail Way.</u> Tree numbers 140, 141, 142, 132, 131, and 128. In sequence from Aprasia Way to Gorman Drive.</p> <p>6 <i>Eucalyptus species</i> (unidentified species)</p> <p>Species may be endemic to immediate area or as a minimum Australian Native. Stem diameters 70mm to 100mm. Heights 3-7 meters, canopy spread 2-3 meters. Trees described as in good to excellent condition and vigour. Environmental Rating – Low. Expected useful life 40 years +. Tree Protection Zone (TPZ) 2m radially based on minimum area for a tree.</p>	<p>Trees present as sound young trees with long life expectancy. Council has invested time and resources to establish these trees to this point and would likely be keen to retain them.</p> <p><u>Recommendation - Retain and protect if possible.</u></p> <ul style="list-style-type: none"> • General impacts to the canopy or stem from development – site access movement/storage of plant and materials. <p><u>Recommendations.</u></p> <ol style="list-style-type: none"> 6. If these trees are not outside the development fencing then erect fences around each tree so that at least 2m radially is provided for each tree.

6. General Recommendations.

- If any of the Council Trees are inside the development perimeter fencing then Erection of TPZ fencing should occur as part of the site set up and prior to any demolition works or bulk earth works.
 - Appropriate signs need to be erected on the TPZ fencing indicating that the trees are protected and no go zones.
- If trees are to be removed from the Aprasia Way street verge then this should be considered as the primary access and egress point for the development to that this minimises potential physical injury to any of the trees on the other streets.
 - It is noted that there is an existing driveway of Gorman Avenue that could also be used for similar purposes.
- There should be no parking of vehicles, or plant or storage of any materials within the TPZ of any Council trees to be retained.
- There should be no trenching or excavation works within the TPZ without prior consultation with Level 5 Arboricultural consultant to evaluate the impacts on the trees. This specifically includes, trenching for services, general earth works, including landscaping that disturbs the soil profile.
- I do not see the requirement of a formal tree protection plan, but I would suggest it is in the interests of the construction organisation to have the trees inspected at site establishment, mid construction and completion to verify the condition and integrity of the trees.



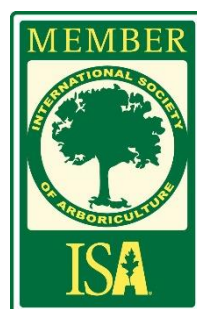
3 May 2021

Wade Ryan Contracting - Level 8 Arboriculture Consultant

BAppSc(EnvHort) – AdvDip OH&S

ISA Member - International Society of Arboriculture

QTRA – Advanced User. Associate Member – Institute of Australian Consulting Arboriculturists (IACA)



ISA Member : 257486

References.

QPRC (2021a). *Queanbeyan-Palerang Regional Council. Trees on private land.* Accessed online 3/05/2021 at;
<https://www.qprc.nsw.gov.au/Waste-Environment/Environment/Tree-Management/Trees-on-Private-Land#section-2>

QPRC (2021b). *Queanbeyan-Palerang Regional Council - Development Control Plan – section 2.12.* Accessed online 3/05/2021 at;
<file:///D:/Downloads/Part-2-All-Zones-Queanbeyan-Development-Control-Plan-2012.pdf>

Tree Evaluation Criteria.

Environmental Rating	Environmental Evaluation Considerations/criteria
1 -Very High	Normally Old growth Remnant Tree, multiple hollows important to endangered fauna, replacement would be well in excess of 150 years
2 - High	Mature or semi mature Endemic Tree with or without hollows, plays an important part in local ecology, or Australian Native that has high substitute values as endemic tree replacement would take 50-100 years
3 - Medium	Young or semi mature Endemic tree or Australian native species that has some positive values for local fauna/ecosystems - replacement would take 20 or more years. Large Exotic tree with elevated general values.
4 - Low	Normally exotic species, or small, young endemic or native that could be replaced in the short term 5-10 years
5 - Very Low	Listed Weed or nuisance species; or very small value or insignificant to local ecology - could be replaced within 5 years or readily replaced with species of greater value
Significant Tree value considerations/criteria	
Very Significant	Defined as Significant Tree by regulatory or other authority or Environmental rating 1 or Heritage Listed or Very High Cultural or heritage Values
Significant	Environmental rating 2 or Medium or large tree in good/excellent condition, suited to local environment or Imposing within the local landscape with long life expectancy and or Strong amenity values or some cultural or heritage links

Origin. **Endemic** - Species is native to this location. **Aus Native** - Species native to Australia but not this location. **Exotic Species** - introduced to Australia

Age Class. **New** - Recent Planting - last year or two. **Young** - Sapling, extended growth remaining. **Semi Mature** - Some remaining growth to reach maturity for the site and species. **Mature** - Considered mature size for site and species - typically no sign of decline. **Over Mature** - Tree has commenced to decline - obvious signs. **Senescent** - Extended signs of decline - recovery not expected. **Dead** - Little or no metabolic function remaining.

General Condition - Summation of all considerations. Includes Stem/Canopy Structure Defects, Form, Canopy Vigour, and Extent of any decay, Pest and Disease influences. 1 – Excellent. 2 – Good. 3 – Fair 4 – Poor 5 - Very Poor

Tree Height and canopy spread is estimated unless otherwise specified. Tree stem diameter is measured at approximately 1.4m above - or at a point indicative of the tree dimension where abnormal growth occurs at 1.4m above ground. Multi stemmed trees are calculated as per AS 4970

TPZ – Tree Protection Zone - specified area above and below ground and at a given distance from the trunk set aside for the protection of the tree's roots and crown to provide for the viability and stability of a tree to be retained where it is potentially subject to damage by development.

SRZ - Structural Root Zone – the area around the base of a tree required for the tree's stability in the ground - calculated in meters radially from stem centre. (*From Australian Standard 4970-2009 Protection of Trees on development sites*) TPZ and SRZ are calculated from AS 4970