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Assessment and report by:

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Job No:

28 November 2024

Nick Mahon
Capital Works and Facilities Manager
Ivanhoe Girls' Grammar School
123 Marshall Street
Ivanhoe VIC 3079

Arboricultural Impact Assessment Report regarding 35 trees located within the vicinity of the proposed carpark development at Ivanhoe Girls' Grammar, 129-137 Marshall Street, Ivanhoe

Dear Nick,

We are pleased to provide you the following Arboricultural Impact Assessment Report for 35 trees within the grounds of Ivanhoe Girls' Grammar, 129-137 Marshall Street, Ivanhoe.

Complete use of this report is authorised under the conditions limiting its use as stated in Appendix A Item 7 of "Arboricultural Reporting Assumptions and Limiting Conditions".

Should you have any queries relating to this report, its recommendations, or the options considered please do not hesitate to contact us on 1300 272 671.

Regards,



Andy Clark

Consulting Arborist
Dip. Hort. (Arb.), AQF Level 5

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| Version | Date | Author | Rationale |
|----------------|------------------|---------------|------------------|
| 1 | 18 November 2024 | Andy Clark | First Issue |
| 2 | 28 November 2024 | Andy Clark | Site revision |

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1 Executive summary

- 1.1 The following is an Arboricultural Impact Assessment Report regarding 35 trees located within the rear of 129-137 Marshall Street, owned by and situated adjacent to Ivanhoe Girls' Grammar School.
- 1.2 The subject sites and/or adjacent residential sites were identified by Ivanhoe Girls' Grammar School (hereinafter referred to as the client) as possessing trees that may be impacted upon by the proposed conversion of a part of the rear yards of two of the properties, sites 129 and 137, into carparking spaces available for school use. The rear yards under consideration have existing concrete slab carparking and/or garages within the intended development area.
- 1.3 In part, the project scope was to nominate the subject trees that are suitable for retention/preservation, or require removal to facilitate the proposed development works, as well as identify and reduce potential conflicts between the subject trees and proposed site development. Accurate information on the area required for tree retention and methods/techniques suitable for tree protection during demolition and/or construction have been provided.
- 1.4 Thirty-five trees were recommended for retention, with exclusion using the existing perimeter fencing and/or site protection fencing being the main measure to be employed, and minimal impacts and long-term negative impacts envisaged.
- 1.5 Tree retention status in relation to the proposed development (refer to Section 5.4 for full details of Retention Value categories):

| RV | Description | Total | Remove | | Retain | |
|----|--------------------------------|-------|--------------------------------------|------------------------------------|--------------------------|--|
| | | | located within development footprint | irrespective of future development | with specific protection | with generic protection |
| A | High retention value trees | 0 | | | | |
| B | Moderate retention value trees | 2 | | | | 1, 10 |
| C | Low retention value trees | 33 | | | | 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35 |

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- 2.1 Civica ArborSafe was engaged by Nick Mahon on behalf of the client to complete an Arboricultural Impact Assessment Report on 35 trees located within the rear of a number of residential properties at 129-137 Marshall Street, Ivanhoe which are owned by, and situated adjacent to, Ivanhoe Girls Grammar School.
- 2.2 The report was intended to provide information on the subject trees and how they may be impacted upon by the conversion of a number of rear yards (129 and 137 Marshall Street) into carparking spaces available for school use. Most of the rear yards under consideration have concrete slabs/existing carparking/garages within the intended development area. Report findings and recommendations are based upon guidance provided within the Australian Standard AS 4970–2009: *Protection of Trees on Development Sites*.
- 2.3 Observations and recommendations are based upon information provided by the client and an arborist site visit.

3 Scope

- 3.1 Carry out a visual assessment of the nominated trees located within the vicinity of the proposed development works, including trees located within neighbouring properties and/or council administered road verges where necessary. Provide an objective appraisal of the subject trees in relation to their species, estimated age, health, structural condition, useful life expectancy (ULE) and viability within the existing landscape.
- 3.2 Based on the findings of the visual assessment, provide independent recommendations on the retention value of the subject trees.
- 3.3 Identify the subject trees that are retainable or require removal to facilitate the proposed development as shown in the plans provided.
- 3.4 Identify and reduce potential conflicts between the retainable subject trees and the proposed site development by providing accurate information on the area required for successful tree retention and methods/techniques suitable for tree protection during demolition and/or construction.

4 Methodology

4.1 Data collection

- 4.1.1 James Cross of Civica ArborSafe carried out a site inspection of the subject trees on 8 November 2024.
- 4.1.2 Trees that are the subject of this report (Figure 4) were identified during discussions with the client, reviewing relevant supplied development documentation and reviewing the description of a non-exempt 'Tree' as identified within the City of Banyule City Council relevant documentation.
- 4.1.3 Pursuant with the consent authorities tree management policy, all site trees above 12m in height and/or with a trunk or stems that collectively exceed more than 0.4m in diameter (measured at 1.4m above the tree base) have been included within this report, as well as most remaining smaller trees onsite. Some small shrubs within the site have been omitted from the report based on their species and/or minimal current size (or potential future size), contribution to local amenity and/or ease of replacement.
- 4.1.4 The subject trees were inspected from the ground using the initial component of Visual Tree Assessment (VTA) (Mattheck, 1994). No foliage or soil samples were taken and no aerial, underground or internal investigations were undertaken.

- 4.1.5 Tree height and crown width were estimated and have been provided in a variety of ranges with 5m increments. Trunk diameter at breast height (DBH) and trunk diameter at the root crown (DRC) were measured with a diameter tape and provided to the nearest centimetre. The physical dimensions of trees located on neighbouring properties have been estimated due to restricted access.
- 4.1.6 TPZ encroachment calculations are based upon measurements obtained from using PDF measuring tools and/or scale ruler and/or measurement descriptions from the assessing arborists against plans showing surveyed tree locations calculated within a dedicated TPZ encroachment calculator.
- 4.1.7 It is important to note that TPZ is a theoretical calculation and can be influenced by existing physical constraints such as buildings, drainage channels, retaining walls, etc. (Standards Australia, 2009)
- 4.1.8 Environmental and heritage information was sourced from VicPlan. The source of all information in this regard has been referenced accordingly.
- 4.1.9 Data collected on site was analysed alongside the supplied development documentation and plans by Andy Clark, following which relevant findings and recommendations were formulated and collated into report format.
- 4.1.10 Tree protection zones (TPZ) and structural root zones (SRZ) were calculated in accordance with the Australian Standard AS 4970–2009: *Protection of Trees on Development Sites*.
- 4.1.11 Retention values have been determined based upon a modified version of the British Standard BS 5837–2012: *Trees in Relation to Design, Demolition and Construction*.
- 4.1.12 All photographs were taken at the time of the site inspection by the author and may have been altered for brightness, contrast, or have been cropped.
- 4.1.13 Plans of the existing site and of the proposed development were provided to Civica ArborSafe on 11 November 2024.
- 4.1.14 No proposed underground service locations have been reviewed in the preparation of this report.

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5 Observations

5.1 Proposed construction

5.1.1 The proposed development has been reviewed and in summary consists of the conversion of Ivanhoe Girls' Grammar properties (129-137 Marshall Street) into car parking spaces which can be utilised by the school.

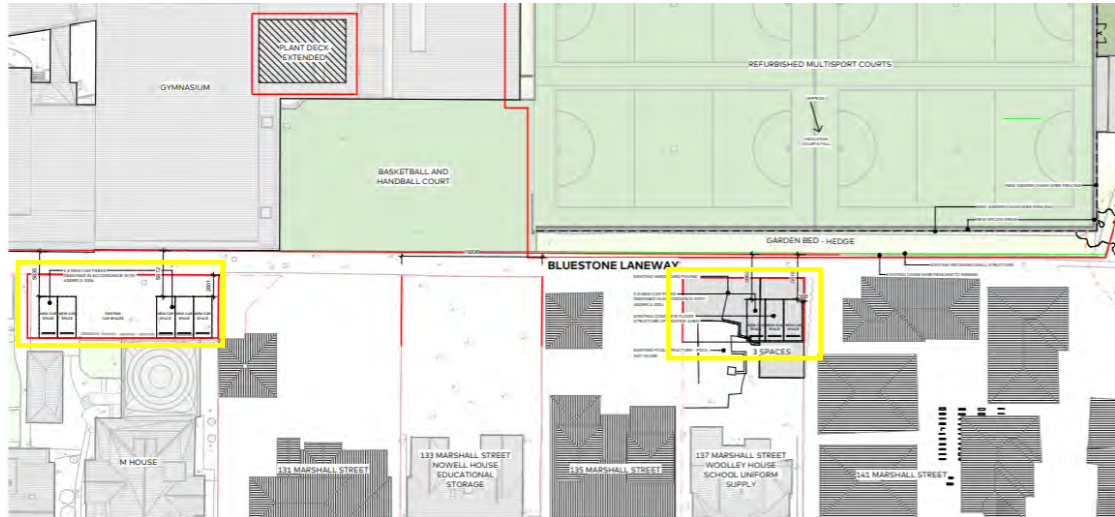


Figure 1. Excerpt from *Site Plan - Proposed, Dwg. No. TP-004, Rev. 2*. The yellow squares indicate the two rear yard areas designated for carpark conversion. Client, November 2024.

5.1.2 Plans of the existing site and of the proposed development were provided to Civica ArborSafe on 12 November 2024 and include (but are not limited to):

- Combined Floor Plans, Issue 2, Cox Architects, 23.10.2024

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5.2 Location

- 5.2.1 The two targeted sites were located adjacent, but outside, the grounds of Ivanhoe Girls' Grammar School (Figure 2). The designated carpark areas are within the rear of 129 and 137 Marshall Street, which are situated on the opposite side of Bluestone Laneway.
- 5.2.2 The area is part of the City of Banyule City Council Local Government Area (LGA).
- 5.2.3 The targeted rear yard area of 129 Marshall Street consists of an existing level concrete slab.
- 5.2.4 The targeted rear yard area of 137 Marshall Street consists of an existing concrete slab, extending across the property, which backs on to a disused pool. A degraded garage structure is situated on the northern boundary.



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Figure 2. Whole site image (location). Yellow squares delineate the 2 x yards (yellow) that will be targeted by the proposed development works. Nearmap, November 2024.



Figure 3. An image looking south of the existing concrete slab at the rear of 137 Marshall Street, including the disused pool. Client, November 2024.

5.3 The subject trees

5.3.1 The site trees are considered to consist of 100% planted material, with no remnant specimens or species endemic to the local area observed.

5.3.2 None of the subject trees were species indigenous to the local area, with two being native to Australia and the remaining 31 being exotic species.

5.3.3 Sixteen species were identified across the site with the most prevalent being *Camellia sasanqua* (Camellia), *Betula pendula* (Silver Birch) and *Hesperocyparis arizonica* (Rough-barked Arizona Cypress).

5.3.4 The treescape is relatively young with eight (22.9%) of the existing surveyed trees rated as Semi-mature and a further 24 trees (68.6%) being in the Young/Juvenile category. Three trees (8.6%) were rated as Mature specimens.

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Figure 4. Site map showing the subject trees and locations of the 2 yards in question (yellow Squares). Tree attributes can be obtained from Appendix E – Tree Assessment Data. ArborSafe, November 2024.

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5.4 Tree retention values

- 5.4.1 Tree retention values have been determined based upon a modified version of the British Standard BS 5837–2012: *Trees in Relation to Design, Demolition and Construction*. This standard categorises tree retention value, based upon an assessment of a tree’s quality (health and structure) and useful life expectancy, into one of four categories – A, B, C and U. Refer to Appendix C for further details.
- 5.4.2 Other criteria such as a tree’s physical dimensions, age class, location and its amenity, heritage and/or environmental significance and potential replacement time were also considered. A breakdown of the attributes required for classification in each category can be obtained from Appendix C.
- 5.4.3 In relation to development applications, relevant consent authorities will generally consider:
- **Category A Retention Value** trees as significant and alterations to the design proposal and/or specific protection measures are generally recommended to facilitate successful tree retention post project completion.
 - **Category B Retention Value** trees as a site constraint consideration. Trees in this retention category warrant proportional design consideration and amendment to ensure their viable retention post project completion.
 - **Category C Retention Value** trees are not considered a site constraint and do not generally warrant design consideration or amendment.
 - **Category U Retention Value** trees are considered a site opportunity, as such trees are generally of poor arboricultural quality and normally recommended for removal irrespective of proposed development.

| Category | Tree numbers |
|----------|--|
| A | |
| B | 1, 10 |
| C | 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35 |
| U | |

5.5 Heritage status

- 5.5.1 A review of a VicPlan Planning Property Report indicated the proposed development area had no trees identified as being of national, state or local heritage significance (Victoria State Government, 2024).
- 5.5.2 The proposed development sites are sited within a designated Heritage Overlay area (Victoria State Government, 2024).

5.6 Botanic and environmental status

- 5.6.1 The subject trees were considered to be common species within the local area and as such held limited botanical significance.
- 5.6.2 A review of a VicPlan Planning Property Report indicated the designated properties do sit within an area designated as having a Vegetation Protection Overlay (VPO) (Victoria State Government, 2024).

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6 Discussion

6.1 Determining TPZ encroachment

6.1.1 Major encroachment. As per the Australian Standard AS 4970–2009: *Protection of Trees on Development Sites*, a major encroachment into the TPZ of any tree is considered to occur when it is beyond 10% of the total TPZ area.

6.1.2 Trees with major encroachment may require removal or, in certain instances, be retained with specific protection requirements throughout the construction stage.

6.1.3 Minor encroachment. Under the aforementioned standard, a minor encroachment is determined as being less than 10% of the total TPZ area. Trees with minor encroachment may be retained with specific, generic or no protection requirements throughout the construction stage.

6.1.4 No encroachment. Trees with no encroachment may be retained with generic or no protection requirements throughout the construction stage.

6.1.5 For the purposes of this report, trees to be removed or retained have been identified as those:

- Requiring removal due to a level of encroachment into their TPZ that would likely result in a detrimental impact upon their future health and/or stability
- Retainable and requiring specific protection requirements throughout construction (i.e. generic requirements plus a combination of arborist supervision and careful construction methods within their TPZ)
- Retainable and requiring generic tree protection measures only (i.e. protective fencing and restriction of activities within the TPZ)

6.2 Impact of proposed development

6.2.1 A review of the proposed design has been undertaken in the context of tree retention and removal across the site.

6.2.2 The main development impact which affects trees, but not necessarily to the point of requiring immediate removal, is significant root damage/severance due to major TPZ encroachment. Root damage/severance largely occurs due to two main impacts – soil compaction (compacting existing site soil to build on or installing additional fill to raise soil levels) and/or direct root severance (excavation for service installation or lowering surface levels).

6.2.3 Negative tree impacts can manifest as either a reduction in health and/or vigour due to root loss (absorption and/or transport roots) resulting in a reduction in water and nutrient absorption capability or on tree stability if larger roots are impacted. Ultimately, the outcome for the trees depends on a number of variable factors including species, age, current health, TPZ encroachment percentage, soil type, topography, previous site use and the proposed design and construction methodology.

6.2.4 Compacted soils, especially artificially compacted soils, such as those commonly found under driveways or building platforms, have a higher bulk density down to a deeper level of subsoil. Bulk density is the term used for describing the weight of soil per unit volume. The broad engineering thinking is that the higher the density the more stable the road/driveway surface due to less soil movement in expansion, contraction, or compression. A higher bulk density is produced by compacting the soil to reduce available pore space between the soil particles.

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- 6.2.5 The effect of compacted soils on plants is somewhat influenced by soil type but generally a reduction in soil pore space reduces the available area for oxygen and water within the soil profile. A reduction in available soil water and/or oxygen inhibits root activity within the soil, as they are essential for root elongation and growth, and the lack of these properties is considered a major limiting factor. Due to this reason, existing infrastructure, such as roads/driveways, situated in close proximity to the base of trees can act as root barriers thereby affecting the shape of the TPZ and allowing closer works than would otherwise be permitted.
- 6.2.6 The TPZ encroachment of various trees situated within 131, 133, 135 and 139 Marshall Street, including the larger tree numbered 1 within site 135, from the proposed carparking areas within 129 and 137 Marshall Street appears to be major, however due to the pre-existing compacted gravel/slabs within the proposed areas it is anticipated minimal root activity would have occurred, thereby limiting negative impacts going forward.
- 6.2.7 The assumption of allowable encroachment and minimal long-term health or structural impacts to trees rely on a combination of the following being used – root sensitive construction methods being adhered to within the TPZ, minimal excavation within the TPZ to limit root severance (i.e. construction placed outside the TPZ where possible), fill rather than excavation utilised to affect level changes where possible (i.e. to minimise root severance and allow the tree's root system time to adjust), no construction occurring within the SRZ, compensatory area being available around the unimpacted aspects of the trees, and the enhancement of the existing TPZ area (i.e. mulched, soil conditioning and irrigation when required).
- 6.2.8 Most existing trees have zero to minor TPZ encroachment and can be retained with generic protection, largely centred on them remaining excluded within their respective rear yards and away from the proposed carparking areas.

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7 Tree protection and management recommendations

7.1 Tree removal

7.1.1 Zero trees would require removal, based on the supplied design proposal, to facilitate the development).

7.2 Tree retention

7.2.1 Thirty-five trees were recommended for retention and require basic protection measures, largely centred on continued exclusion from the development areas within their own contained residential yards, to ensure they remain viable following the completion of works.

| Recommendation | Category A High retention value | | Category B Moderate retention value | | Category C Low Retention value | |
|---|------------------------------------|--------------|--|--------------|-----------------------------------|--|
| | Qty | Tree numbers | Qty | Tree numbers | Qty | Tree numbers |
| Retain with generic protection requirements | 0 | | 2 | 1, 10 | 33 | 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35 |

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Figure 5. Site map showing all retained trees requiring generic protection measures. ArborSafe, November 2024.

7.3 Generic protection and reporting measures

7.3.1 All subject trees designated for retention require generic protection during the demolition and/or construction stage. Tree protection measures include a range of:

- Activities restricted within the TPZ
- Protective fencing
- Trunk and ground protection
- Tree protection signage
- Involvement from the project arborist
- Project milestones
- Compliance reporting

7.4 Activities prohibited within the TPZ

- Machine excavation including trenching
- Storage
- Preparation of chemicals, including cement products
- Parking of vehicles and plant
- Refueling
- Dumping of waste
- Wash down and cleaning of equipment
- Placement of fill
- Lighting of fires
- Soil level changes
- Temporary or permanent installation of utilities and signs
- Physical damage to the tree

7.5 Protective fencing specification

7.5.1 Tree protective protection fencing is to be installed at the designated TPZ or maximum practicable extent. As a guide fencing is to be erected as per the image below before any machinery or materials are brought to site and before commencement of works (including demolition).

7.5.2 In some areas of the site (i.e. protection of trees on neighbouring properties) existing boundary fencing and/or external site fencing may be used as an alternative to protective fencing.

7.5.3 Once erected, tree protection fencing must not be removed or altered without approval from the project arborist and/or the responsible authority and is to be secured to restrict unauthorised access.

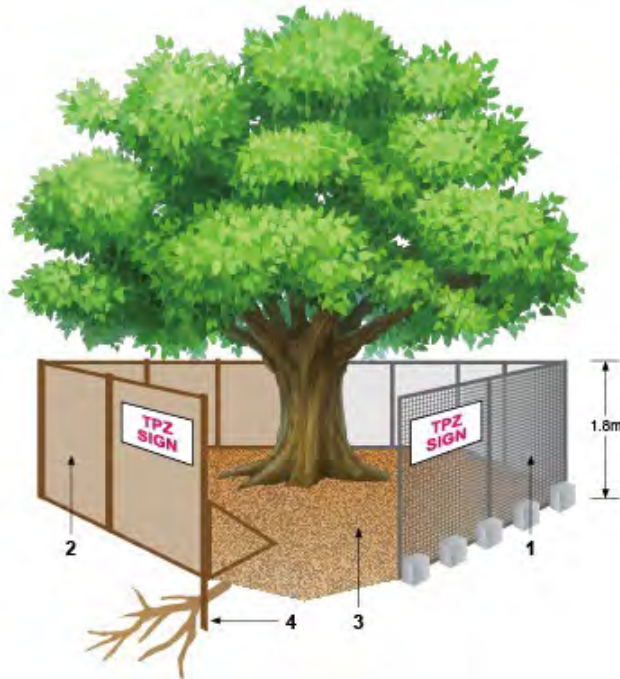
7.5.4 Tree protection fencing is to be a minimum of 1.8 metres high and mesh or wire between posts must be highly visible. Fence posts and supports should have a diameter greater than 20 millimetres and should ideally be freestanding, otherwise be located clear of tree roots.

7.5.5 Tree protection fencing must remain intact throughout all proposed construction works and must only be dismantled after their conclusion. The temporary dismantling of tree protection fencing must only be done with the authorisation of the project arborist and/or the responsible authority.

7.5.6 The subject trees themselves must also not to be used as a billboard to support advertising material. Affixing nails or screws into the trunks of trees to display signs of any type is not a recommended practice in the successful retention of trees.

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Legend:

1. Chain wire mesh panels with shade cloth attached (if required), held in place with concrete feet
2. Alternative plywood or wooden paling fence panels. This fencing material also prevents building materials or soil entering the TPZ
3. Mulch installation across surface of TPZ (at discretion of the project arborist). No excavation, construction activity, grade changes, surface treatment or storage materials of any kind are permitted within the TPZ
4. Bracing is permissible within the TPZ. Installation of supports should avoid damaging roots.

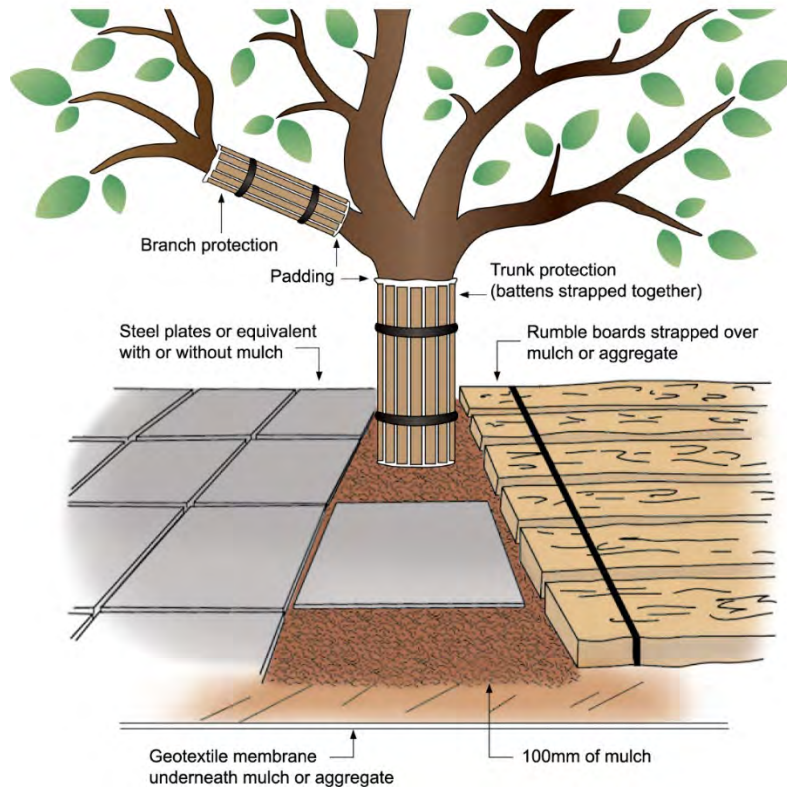
Figure 6. Depicts standard fencing techniques. AS 4970–2009.

7.6 Trunk and ground protection

- 7.6.1 Where proposed works are within the TPZ of retained subject trees, standard protective fencing may not always be a viable method of protection. In these instances trunk protection and/or ground protection should be installed prior to the commencement of site establishment and remain in place until after all proposed works have been completed.
- 7.6.2 Where construction access into the TPZ of retained subject trees cannot be avoided, the root zone of each affected tree must be protected using steel plates or rumble boards strapped over mulch/aggregate until such a time as permanent, above-ground surfacing (cellular confinement system or similar) is installed.
- 7.6.3 Trunk and ground protection is to be undertaken in accordance with the Australian Standard AS 4790–2009: *Protection of Trees on Development Sites* as per the image below.

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Notes:

1. For trunk and branch protection use boards and padding that will prevent damage to bark. Boards are to be strapped to trees, not nailed or screwed.
2. Rumble boards should be of a suitable thickness to prevent soil compaction and root damage.

Figure 7. Depicts trunk and ground protection techniques. AS 4970–2009.

7.7 Tree protection signs

- 7.7.1 Signs identifying the TPZ are to be placed at approximate 10 metres intervals around the edge of the TPZ fencing and must be visible from within the development site.

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Figure 8. Depicts an example of a tree protection sign. AS 4970–2009.

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7.8 Proposed pruning

- 7.8.1 It is anticipated that minor pruning may be required, largely centred on reduction or crown lifting to facilitate access for the new site usage, of no greater than 10% of any tree's total crown area. Such pruning is considered to have minimal long term health impact to the tree.
- 7.8.2 To ensure that a high standard of works is achieved, all tree pruning and/or removal works must be completed in accordance with the Australian Standard AS 4373–2007: *Pruning of Amenity Trees* and be undertaken by a suitably qualified arborist (minimum AQF Level 3).
- 7.8.3 Branch reduction pruning (where required) must focus on the removal of smaller diameter branches where feasible and remove no greater than 10% of total crown mass. Branches no greater than 50mm in diameter are to be removed unless specifically approved by the project arborist.

7.9 Project arborist

- 7.9.1 A project arborist must be commissioned to oversee all tree protection measures, approved works within TPZ's (where necessary) and complete regular monitoring and compliance certification.
- 7.9.2 The project arborist must be suitably experienced and competent in arboriculture, having acquired through training, a minimum qualification in this field under the Australian Qualification Framework (AQF) of Level 5, or an equivalent.
- 7.9.3 Regular site inspections are to be conducted by the project arborist at several, key points during the project to ensure all tree protection recommendations are being adhered to during demolition and/or construction. Such inspections will also allow for any alterations in tree health and/or additional tree protection or remediation measures to be identified and addressed.

7.10 Project milestones

- 7.10.1 The following visits and milestones are recommended as a guide as to when on-site inspections by the project arborist are required:

| Item | Purpose of Visit | Timing of Visit(s) | Prerequisites |
|------|--|--|--|
| 1 | Pre-start induction | Following sign-off from Item 1. Contractor to provide a minimum of five (5) days' advance notice for this visit. | Prior to commencement of works. All parties involved in the project to attend. |
| 2 | Supervision of works in TPZ's, including all regrading and excavations | Whenever there is work planned to be performed within the TPZ's. Contractor to provide a minimum of five (5) days' advance notice for such visits. | |
| 3 | Regular site inspections | Minimum frequency monthly for the duration of the project. | The checklist must be completed by the project arborist at each site inspection and be signed by both parties. |
| 4 | Final sign off | Following completion of all works. | Practical completion of works and prior to tree protection removal. |

7.11 Compliance reporting

- 7.11.1 Following each site inspection, the project arborist is to prepare a report detailing the health and structural condition of the subject trees designated for retention. These reports should certify whether the works are being undertaken in accordance with the consent/conditions relating to tree protection and management.
- 7.11.2 These reports should contain photographic evidence (where applicable) to demonstrate that all tree protection and management recommendations are being carried out as specified.

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- 7.11.3 Matters to be monitored and contained in these reports must include tree health and structural condition, the appropriateness and effectiveness of tree protection measures and any potential impact(s) on retained subject trees relating to conducted works which may arise from changes to the endorsed plans.
- 7.11.4 After completion, the reports shall be submitted to the project manager (as well as the clients' nominated representative where required).
- 7.11.5 If any tree protection conditions are found to have been breached, clear remedial action specifications must be specified, and the responsible authority notified.

7.12 Additional excavation/trenching within TPZ's

- 7.12.1 In the event additional excavation is required within the TPZ of subject trees designated for retention/preservation, this is only to be conducted with the express consent of the project arborist and/or the responsible authority.
- 7.12.2 Upon review these excavations may be required to be conducted using techniques that are sensitive to tree roots to avoid unnecessary damage.

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Appendix A. Arboricultural reporting assumptions and limiting conditions

1. Any legal description provided to the consultant is assumed to be correct. Any titles and ownership of any property are assumed to be good. No responsibility is assumed for matters legal in character.
2. It is assumed that any property/project is not in violation of any applicable codes, ordinances, statutes or other government regulations.
3. Care has been taken to obtain all information from reliable sources. All data has been verified in so far as possible, however, the consultant can neither guarantee nor be responsible for the accuracy of the information provided by others.
4. The consultant shall not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services.
5. Loss or alteration of any part of this report invalidates the entire report.
6. Possession of this report or a copy thereof does not imply right of publication or use for any purpose by anyone but the person to whom it is addressed, without the prior written consent of the consultant.
7. Neither all nor any part of the contents of this report, nor any copy thereof, shall be used for any purpose by anyone but the person to whom it is addressed, without the written consent of the consultant. Nor shall it be conveyed by anyone, including the Client, to the public through advertising, public relations, news, sales or other media, without the written consent of the consultant.
8. This report and any values expressed herein represent the opinion of the consultant and the consultant's fee is in no way contingent upon the reporting of a specified value, a stipulated result, the occurrence of a subsequent event, nor upon any finding to be reported.
9. Sketches, diagrams, graphs and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys unless expressed otherwise.
10. Information contained in this report covers only those items that were examined and reflect the condition of those items at the time of inspection.
11. Inspection is limited to visual examination of accessible components without dissection, excavation or probing. There is no warranty or guarantee expressed or implied that the problems or deficiencies of the plants or property in question may not arise in the future.

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Appendix B. Explanation of tree assessment terms

Tree number: Refers to the individual identification number assigned within the ArborSafe software to each assessed tree on the site and the number which appears on the tree's tag.

Tree location: Refers to the easting and northing coordinates assigned to the location of the tree as obtained from the geo-referenced aerial image within the ArborSafe software.

Tree species: Provides the botanic name (genus, species, sub-species, variety and cultivar where applicable) in accordance with the International Code of Botanical Nomenclature (ICBN), and the accepted common name.

Trees in group: The number of trees encompassing a collective assessment of more than one tree. Typically grouped trees have similar attributes that can be encompassed within one data record.

Height: The estimated range in metres attributed to the tree from its base to the highest point of the canopy. Where required height will be estimated to the nearest metre.

Diameter at Breast Height (DBH): Refers to the tree's estimated trunk diameter measured 1.4m from ground level for a single trunked tree. These estimates increase in 50mm increments. Where required DBH will be measured to give an accurate measurement for single trunked trees, trees with multiple trunks, significant root buttressing, bifurcating close to ground level or trunk defects and will be measured as per the Australian Standard AS 4970–2009: *Protection of Trees on Development Sites*.

Tree Protection Zone (TPZ): A specified area above and below ground and at a given distance measured radially away from the centre of the tree's trunk and which is set aside for the protection of its roots and crown. It is the area required to provide for the viability and stability of a tree to be retained where it is potentially subject to damage by development. The radius of the TPZ is calculated by multiplying its DBH by 12. TPZ radius = DBH × 12. (Note "Breast Height" is nominally measured as 1.4m from ground level). TPZ is a theoretical calculation and can be influenced by existing physical constraints such as buildings, drainage channels, retaining walls, etc. (Standards Australia, 2009).

Structural Root Zone (SRZ): The area close to the base of a tree required for the tree's anchorage and stability in the ground. The woody root growth and soil cohesion in this area are necessary to hold the tree upright. The SRZ is nominally circular with the trunk at its centre and is expressed by its radius in metres. SRZ radius = $(D \times 50)^{0.42} \times 0.64$ (Standards Australia, 2009).

Canopy spread: The estimated range in metres attributed to the spread of the tree's canopy on its widest axis. Where required crown spread will be estimated to the nearest metre.

Origin: Refers to the origin of the species and its type.

| Category | Description |
|-------------------|---|
| Indigenous | Occurs naturally in the local area and is native to a given region or ecosystem. |
| State Native | Occurs naturally within State but is not indigenous. |
| Australian Native | Occurs naturally within Australia and its territories but is not a State native or indigenous. |
| Exotic Evergreen | Occurs naturally outside of Australia and its territories and typically retains its leaves throughout the year. |
| Exotic Deciduous | Occurs naturally outside of Australia and its territories and typically loses its leaves at least once a year. |

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Health: Refers to the health and vigour of the tree.

| Category | Description |
|------------------|--|
| Excellent | Canopy full with even foliage density throughout, leaves are entire and are of an excellent size and colour for the species with no visible pathogen damage. Excellent growth indicators, e.g. seasonal extension growth. Exceptional specimen. |
| Good | Canopy full with minor variations in foliage density throughout, leaves are entire and are of good size and colour for the species with minimal or no visible pathogen damage. Good growth indicators, none or minimal deadwood. |
| Fair | Canopy with moderate variations in foliage density throughout, leaves not entire with reduced size and/or atypical in colour, moderate pathogen damage. Reduced growth indicators, visible amounts of deadwood, may contain epicormic growth. |
| Poor | Canopy density significantly reduced throughout, leaves are not entire, are significantly reduced in size and/or are discoloured, significant pathogen damage. Significant amounts of deadwood and/or epicormic growth, noticeable dieback of branch tips, possibly extensive. |
| Dead | No live plant material observed throughout the canopy, bark may be visibly delaminating from the trunk and/or branches. |

Age: Refers to the life cycle of the tree.

| Category | Description |
|--------------------|---|
| Young | Newly planted small tree not fully established may be capable of being transplanted or easily replaced. |
| Juvenile | Tree is small in terms of its potential physical size and has not reached its full reproductive ability. |
| Semi-mature | Tree in active growth phase of life cycle and has not yet attained an expected maximum physical size for its species and/or its location. |
| Mature | Tree has reached an expected maximum physical size for the species and/or location and is showing a reduction in the rate of seasonal extension growth. |
| Senescent | Tree is approaching the end of its life cycle and is exhibiting a reduction in vigour often evidenced by natural deterioration in health and structure. |

Structure: Refers to the structure of the tree from roots to crown.

| Category | Description |
|------------------|---|
| Good | Sound branch attachments with no visible structural defects, e.g. included bark or acute angled unions. No visible wounds to the trunk and/or root plate. No fungal pathogens present. |
| Fair | Minor structural defects present, e.g. apical leaders sharing common union(s). Minor damage to structural roots. Small wounds present where decay could begin. No fungal pathogens present. |
| Poor | Moderate structural defects present, including bifurcations with included bark with union failure likely within 0–5 years. Wounding evident with cavities and/or decay present. Damage to structural roots. |
| Hazardous | Significant structural defects with failure imminent (3–6 months). Defects may include active splits and/or partial branch or root plate failures. Tree requires immediate arboricultural works to alleviate the associated risk. |

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Useful Life Expectancy (ULE): Useful life expectancy refers to an expected period of time the tree can be retained within the landscape before its amenity value declines to a point where it may detract from the appearance of the landscape and/or presents a greater risk and/or more hazards to people and/or property. ULE values consider tree species, current age, health, structure and location. ULE values are based on the tree at the time of assessment and do not consider future changes within the tree's location and environment which may influence the ULE value.

| Category |
|-------------|
| 0 Years |
| <5 Years |
| 5–10 Years |
| 10–15 Years |
| 15–25 Years |
| 25–50 Years |
| >50 Years |

Defects: Visual observations made of the presenting defects of the tree and its growing environment that are, or have the capacity to impact upon, the health, structural condition and/or the useful life expectancy of the tree. Defects may include adverse physical traits or conditions, signs of structural weaknesses, plant disease and/or pest damage, tree impacts to assets or soil related issues.

Tree significance: Includes environmental, social or historical reasons why the tree is significant to the site. The tree may also be rare under cultivation or have a rare or localised natural distribution.

Arborist actions: A list of arboricultural and/or plant health care works that are aimed at maintaining or improving the tree's health, structural condition or form. Actions may also directly or indirectly reduce the risk potential of the tree such as via the removal of a particular branch or the moving of infrastructure from under its canopy.

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Appendix C. Tree retention values

Based upon a modified version of the British Standard BS 5837–2012: *Trees in relation to design, demolition and construction* – recommendations.

| Category and definition | Criteria (including sub-categories where appropriate) | | |
|--|---|--|---|
| | 1. Arboricultural qualities | 2. Landscape qualities | 3. Cultural and environmental values |
| Category A | | | |
| Trees of High Quality with an estimated remaining life expectancy of at least 25 years and of dimensions and prominence that it cannot be readily replaced in <20 years. | Trees that are particularly good examples of their species, especially if rare or unusual (in the wild or under cultivation); or those that are important components of groups or avenues. | Trees or groups of significant visual importance as arboricultural and/or landscape features. (e.g. feature and landmark trees). | Trees, groups or plant communities of significant conservation, historical, commemorative or other value (e.g. remnant trees, aboriginal scar trees, critically endangered plant communities, trees listed specifically within a Heritage statement of significance). |
| Category B | | | |
| Trees of Moderate Quality with an estimated remaining life expectancy of 15–25 years and of dimensions and prominence that cannot be readily replaced within 10 years. | Trees that might be included within Category A but are downgraded because of diminished condition such that they are unlikely to be suitable for retention beyond 25 years. | Trees that are visible from surrounding properties and/or the street but make little visual contribution to the wider locality. | Trees with conservation or other cultural value (trees within conservation areas or landscapes described within a statement of significance, locally indigenous species). |
| Category C | | | |
| Trees of Low Quality with an estimated remaining life expectancy of 5–15 years, or young trees that are easily replaceable. | Trees of very limited value or such impaired condition that they do not qualify in higher categories. | Trees offering low or only temporary/transient landscape benefits. | Trees with no material conservation or other cultural value. |
| Category U | | | |
| Trees in such a condition that they cannot realistically be retained as viable trees in the context of the current land use for longer than 5 years. | <p>Trees that have a severe structural defect that are not remediable such that their failure is expected within 12 months.</p> <p>Trees that will become unviable after removal of other Category U trees (e.g. where for whatever reason the loss of companion shelter cannot be mitigated by pruning).</p> <p>Trees that are dead or are showing signs of significant, immediate and irreversible overall decline.</p> <p>Trees infected with pathogens of significance to the health and or safety of other trees nearby</p> <p>Low quality trees suppressing adjacent trees of better quality.</p> <p>Noxious weeds or species categorised as weeds within the local area.</p> <p>Note: Category U trees can have existing or potential conservation value* which might make it desirable to preserve.</p> | | |

* Where trees would otherwise be categorised as U, B or C but have significant identifiable conservation, heritage or landscape value even though only for the short term, they may be upgraded, although they might be suitable for retention only.

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Tree quality

| | | Health** | | | |
|-----------|----------|--------------------|------|------|------|
| | | Excellent/ Good | Fair | Poor | Dead |
| Structure | Good | A | B | C | U |
| | Fair | B | B | C | U |
| | Poor | C | C | U | U |
| | Hazard * | U | U | U | U |

* Structural hazard that cannot be remediated through mitigation works to enable safe retention.

** Trees of short term reduced health that can be remediated via basic, low cost plant health care works (e.g. mulching, irrigation etc.) may be designated in a higher health rating to ensure correct retention value nomination.

| | |
|-------------------|---|
| Category A | Typically trees in this category are of high quality with an estimated remaining life expectancy of at least 25 years and of dimensions and prominence that it cannot be readily replaced in <20 years. The tree may make significant amenity contributions to the landscape and may make high environmental contributions. In some cases, trees within this category may not meet the above criteria, however possess significant heritage or ecological value. Trees of this retention value warrant design consideration and amendment to ensure their viable retention. |
| Category B | Typically trees in this category are of moderate quality with an estimated remaining life expectancy of 15–25 years and prominence of size dimensions that cannot be readily replaced within 10 years. They may make moderate amenity contributions to the landscape and make low/moderate environmental contributions. Trees with this retention value warrant lesser design consideration in an attempt to allow for their retention. |
| Category C | Trees in this category are of low quality with an estimated remaining life expectancy of 5–15 years, or young trees that are easily replaceable, may have poor health and/or structure, are easily replaceable, or are of undesirable species and do not warrant design consideration. |
| Category U | Trees in this category are found to be in such a condition that they cannot realistically be retained as viable trees in the context of the current land use for longer than five years. These trees may be dead and/or of a species recognised as a weed that resulted in them being unretainable. |

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Appendix E. Tree assessment data

| Tree no. | Easting (GDA94) | Northing (GDA94) | Botanical Name | Common Name | Origin | Trees in group | DBH Total (cm) | DRB (cm) | Radial TPZ (m) | TPZ area (m2) | Radial SRZ (m) | Tree Height (m) | Canopy (m) | Health | Structure | Age | TLE (Yrs.) | Defects | Significance | Tree Quality Score | Tree Retention sub-category | Retention function |
|----------|-----------------|------------------|---|-------------------------------|-------------------|----------------|----------------|----------|----------------|---------------|----------------|-----------------|------------|--------|-----------|-------------|------------|---|---|--------------------|-----------------------------|--|
| 1 | 327982.27 | 5818361.69 | <i>Alnus acuminata</i> ssp. <i>glabrata</i> | Mexican Evergreen Alder | Exotic Evergreen | 1 | 35 | 40 | 4.2 | 55.42 | 2.3 | 5-10 | 10-15 | Good | Good | Semi-Mature | 15-25 | Crossing/rubbing branches; Deadwood/stubs < 30mm; Soil compaction; | Amenity value/shade; Attractive landscape feature; Screen value; | B | 2 | Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ). |
| 2 | 327984.75 | 5818361.83 | <i>Pyrus calleryana</i> | Callery Pear | Exotic Deciduous | 1 | 15 | 17 | 2.0 | 12.57 | 1.6 | 5-10 | <5 | Good | Fair | Semi-Mature | 10-15 | Co-dominant stems; Included bark; Soil compaction; | Amenity value/shade; Attractive landscape feature; Screen value; | C | 2 | Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ). |
| 3 | 327987.87 | 5818361.61 | <i>Hesperocyparis arizonica</i> | Rough-barked Arizona Cypress | Exotic Evergreen | 1 | 10 | 12 | 2.0 | 12.57 | 1.5 | <5 | <5 | Good | Good | Juvenile | 25-50 | Soil compaction; | Amenity value/shade; Attractive landscape feature; Screen value; | C | 2 | Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ). |
| 4 | 327998.16 | 5818362.22 | <i>Pyrus calleryana</i> | Callery Pear | Exotic Deciduous | 1 | 25 | 29 | 3.0 | 28.27 | 2.0 | 5-10 | 5-10 | Good | Fair | Semi-Mature | 10-15 | Co-dominant stems; Included bark; Soil compaction; | Amenity value/shade; Attractive landscape feature; Screen value; | C | 2 | Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ). |
| 5 | 327998.26 | 5818365.6 | <i>Hesperocyparis arizonica</i> | Rough-barked Arizona Cypress | Exotic Evergreen | 1 | 15 | 17 | 2.0 | 12.57 | 1.6 | 5-10 | 5-10 | Good | Good | Juvenile | 25-50 | Soil compaction; | Amenity value/shade; Attractive landscape feature; Screen value; | C | 2 | Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ). |
| 6 | 327998.39 | 5818368.01 | <i>Betula pendula</i> | Silver Birch | Exotic Deciduous | 1 | 10 | 12 | 2.0 | 12.57 | 1.5 | 5-10 | <5 | Good | Good | Young | 25-50 | Soil compaction; | Amenity value/shade; Attractive landscape feature; Screen value; | C | 2 | Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ). |
| 7 | 327998.21 | 5818370.07 | <i>Betula pendula</i> | Silver Birch | Exotic Deciduous | 1 | 15 | 17 | 2.0 | 12.57 | 1.6 | 5-10 | 5-10 | Fair | Good | Juvenile | 25-50 | Pests/insects; Soil compaction; | Amenity value/shade; Attractive landscape feature; Screen value; | C | 2 | Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ). |
| 8 | 328000.51 | 5818370.6 | <i>Betula pendula</i> | Silver Birch | Exotic Deciduous | 1 | 25 | 29 | 3.0 | 28.27 | 2.0 | 5-10 | 5-10 | Good | Fair | Semi-Mature | 25-50 | Co-dominant stems; Pests/insects; Soil compaction; Wound(s); | Amenity value/shade; Attractive landscape feature; Screen value; | C | 2 | Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ). |
| 9 | 328002.34 | 5818370.77 | <i>Betula pendula</i> | Silver Birch | Exotic Deciduous | 1 | 10 | 12 | 2.0 | 12.57 | 1.5 | 5-10 | <5 | Good | Good | Juvenile | 25-50 | Soil compaction; | Amenity value/shade; Attractive landscape feature; Screen value; | C | 2 | Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ). |
| 10 | 328005.42 | 5818367.92 | <i>Corymbia ficifolia</i> | West. Aust. Red Flowering Gum | Australian Native | 1 | 55 | 63 | 6.6 | 136.85 | 2.7 | 10-15 | 10-15 | Fair | Fair | Mature | 15-25 | Co-dominant stems; Deadwood/stubs > 30mm; Dieback; Previous failure(s); Wound(s); | Amenity value/shade; Attractive landscape feature; Significant due to age/size; | B | 2 | Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ). |
| 11 | 328010.29 | 5818369.46 | <i>Hesperocyparis arizonica</i> | Rough-barked Arizona Cypress | Exotic Evergreen | 1 | 15 | 17 | 2.0 | 12.57 | 1.6 | 5-10 | 5-10 | Good | Good | Juvenile | 25-50 | Soil compaction; | Amenity value/shade; Attractive landscape feature; Screen value; | C | 2 | Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ). |
| 12 | 328012.82 | 5818368.93 | <i>Magnolia grandiflora</i> | Bull Bay | Exotic Evergreen | 1 | 10 | 12 | 2.0 | 12.57 | 1.5 | 5-10 | <5 | Good | Good | Juvenile | 15-25 | | Amenity value/shade; Attractive landscape feature; Screen value; | C | 2 | Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ). |
| 13 | 328013.42 | 5818373.76 | <i>Camellia sasanqua</i> | Camellia | Exotic Evergreen | 1 | 10 | 12 | 2.0 | 12.57 | 1.5 | <5 | <5 | Good | Fair | Juvenile | 15-25 | Poor pruning; Wound(s); | Amenity value/shade; Attractive landscape feature; | C | 2 | Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ). |
| 14 | 328019.34 | 5818385.9 | <i>Camellia sasanqua</i> | Camellia | Exotic Evergreen | 1 | 10 | 12 | 2.0 | 12.57 | 1.5 | <5 | <5 | Good | Fair | Juvenile | 15-25 | Poor pruning; Wound(s); | Amenity value/shade; Attractive landscape feature; | C | 2 | Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ). |
| 15 | 328017.09 | 5818386.26 | <i>Camellia sasanqua</i> | Camellia | Exotic Evergreen | 1 | 10 | 12 | 2.0 | 12.57 | 1.5 | <5 | <5 | Good | Fair | Juvenile | 15-25 | Poor pruning; Wound(s); | Amenity value/shade; Attractive landscape feature; | C | 2 | Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ). |
| 16 | 328014.47 | 5818386.43 | <i>Camellia sasanqua</i> | Camellia | Exotic Evergreen | 1 | 10 | 12 | 2.0 | 12.57 | 1.5 | <5 | <5 | Good | Fair | Juvenile | 15-25 | Poor pruning; Wound(s); | Amenity value/shade; Attractive landscape feature; | C | 2 | Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ). |
| 17 | 328010.94 | 5818386.04 | <i>Camellia sasanqua</i> | Camellia | Exotic Evergreen | 1 | 10 | 12 | 2.0 | 12.57 | 1.5 | <5 | 5-10 | Good | Fair | Juvenile | 15-25 | Poor pruning; Wound(s); | Amenity value/shade; Attractive landscape feature; | C | 2 | Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ). |
| 18 | 328009.92 | 5818382.92 | <i>Camellia sasanqua</i> | Camellia | Exotic Evergreen | 1 | 10 | 12 | 2.0 | 12.57 | 1.5 | <5 | <5 | Good | Fair | Juvenile | 15-25 | Poor pruning; Wound(s); | Amenity value/shade; Attractive landscape feature; | C | 2 | Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ). |
| 19 | 328008.36 | 5818379.72 | <i>Camellia sasanqua</i> | Camellia | Exotic Evergreen | 1 | 10 | 12 | 2.0 | 12.57 | 1.5 | <5 | <5 | Good | Fair | Juvenile | 15-25 | Poor pruning; Wound(s); | Amenity value/shade; Attractive landscape feature; | C | 2 | Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ). |
| 20 | 328003.68 | 5818379.81 | <i>Citrus reticulata</i> | Mandarin | Exotic Evergreen | 1 | 10 | 12 | 2.0 | 12.57 | 1.5 | <5 | <5 | Good | Fair | Juvenile | 10-15 | Wound(s); | Amenity value/shade; Attractive landscape feature; | C | 2 | Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ). |
| 21 | 328007.17 | 5818376.17 | <i>Citrus reticulata</i> | Mandarin | Exotic Evergreen | 1 | 10 | 12 | 2.0 | 12.57 | 1.5 | <5 | <5 | Good | Fair | Juvenile | 10-15 | Wound(s); | Amenity value/shade; Attractive landscape feature; | C | 2 | Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ). |
| 22 | 328002.21 | 5818375.77 | <i>Citrus limon</i> | Lemon | Exotic Evergreen | 1 | 10 | 12 | 2.0 | 12.57 | 1.5 | <5 | <5 | Good | Fair | Juvenile | 10-15 | Poor pruning; Wound(s); | Amenity value/shade; Attractive landscape feature; | C | 2 | Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ). |
| 23 | 328006.89 | 5818386.52 | <i>Camellia sasanqua</i> | Camellia | Exotic Evergreen | 1 | 15 | 17 | 2.0 | 12.57 | 1.6 | <5 | 5-10 | Good | Fair | Juvenile | 15-25 | Poor pruning; Wound(s); | Amenity value/shade; Attractive landscape feature; | C | 2 | Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ). |
| 24 | 328004.32 | 5818387.22 | <i>Camellia sasanqua</i> | Camellia | Exotic Evergreen | 1 | 10 | 12 | 2.0 | 12.57 | 1.5 | <5 | <5 | Good | Fair | Juvenile | 15-25 | Parasitic plant/mistletoe; Poor pruning; Wound(s); | Amenity value/shade; Attractive landscape feature; | C | 2 | Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ). |
| 25 | 328004.76 | 5818397.16 | <i>Betula pendula</i> | Silver Birch | Exotic Deciduous | 1 | 15 | 17 | 2.0 | 12.57 | 1.6 | 5-10 | <5 | Fair | Good | Juvenile | 25-50 | Soil compaction; | Amenity value/shade; Attractive landscape feature; Screen value; | C | 2 | Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ). |
| 26 | 328003.85 | 5818398.08 | <i>Betula pendula</i> | Silver Birch | Exotic Deciduous | 1 | 15 | 17 | 2.0 | 12.57 | 1.6 | 5-10 | <5 | Fair | Good | Juvenile | 25-50 | Soil compaction; | Amenity value/shade; Attractive landscape feature; Screen value; | C | 2 | Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ). |
| 27 | 328001.61 | 5818399.53 | <i>Syzygium australe</i> | Brush Cherry | Australian Native | 4 | 10 | 12 | 2.0 | 12.57 | 1.5 | <5 | <5 | Good | Good | Juvenile | 15-25 | | Amenity value/shade; Attractive landscape feature; Hedge tree; Screen value; | C | 2 | Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ). |
| 28 | 328002.03 | 5818405.43 | <i>Fraxinus pennsylvanica</i> | Green Ash | Exotic Deciduous | 1 | 20 | 23 | 2.4 | 18.10 | 1.8 | 5-10 | 5-10 | Fair | Fair | Juvenile | 15-25 | Co-dominant stems; Deadwood/stubs > 30mm; Dieback; Epicormic growth; Previous failure(s); Wound(s); | Amenity value/shade; Attractive landscape feature; Screen value; | C | 2 | Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ). |
| 29 | 328005.07 | 5818406.24 | <i>Schefflera actinophylla</i> | Umbrella Tree | Exotic Evergreen | 1 | 15 | 17 | 2.0 | 12.57 | 1.6 | <5 | 5-10 | Fair | Fair | Juvenile | 5-10 | Deadwood/stubs > 30mm; Parasitic plant/mistletoe; Previous failure(s); Wound(s); | Amenity value/shade; Attractive landscape feature; Screen value; | C | 2 | Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ). |
| 30 | 328009.19 | 5818406.71 | <i>Fraxinus angustifolia</i> ssp. <i>oxycarpa</i> 'Raywood' | Claret Ash | Exotic Deciduous | 1 | 25 | 29 | 3.0 | 28.27 | 2.0 | 5-10 | 10-15 | Good | Fair | Semi-Mature | 15-25 | Co-dominant stems; Deadwood/stubs > 30mm; Excessive end weight; Included bark; Previous failure(s); Wound(s); | Amenity value/shade; Attractive landscape feature; Screen value; | C | 2 | Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ). |
| 31 | 328013.49 | 5818405.32 | <i>Camellia sasanqua</i> | Camellia | Exotic Evergreen | 1 | 15 | 17 | 2.0 | 12.57 | 1.6 | 5-10 | 5-10 | Good | Fair | Semi-Mature | 15-25 | Co-dominant stems; Deadwood/stubs < 30mm; Wound(s); | Amenity value/shade; Attractive landscape feature; | C | 2 | Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ). |
| 32 | 328014.52 | 5818407.75 | <i>Syagrus romanzoffiana</i> | Cocos Palm | Palm | 1 | 35 | 40 | 4.2 | 55.42 | 2.3 | 10-15 | 5-10 | Good | Good | Semi-Mature | 15-25 | Co-dominant stems; Deadwood/stubs < 30mm; Wound(s); | Amenity value/shade; Attractive landscape feature; | C | 2 | Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ). |
| 33 | 328011.61 | 5818408.33 | <i>Syagrus romanzoffiana</i> | Cocos Palm | Palm | 1 | 30 | 35 | 3.6 | 40.72 | 2.1 | 10-15 | 5-10 | Poor | Good | Semi-Mature | 10-15 | Co-dominant stems; Deadwood/stubs < 30mm; Dieback; Wound(s); | | C | 2 | Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ). |
| 34 | 328012.1 | 5818423.09 | <i>Cotoneaster glaucophyllus</i> | Grey-leaved Cotoneaster | Exotic Evergreen | 1 | 45 | 52 | 5.4 | 91.61 | 2.5 | 5-10 | 10-15 | Good | Fair | Mature | 15-25 | Co-dominant stems; Crossing/rubbing branches; Deadwood/stubs > 30mm; Soil compaction; Undesirable species; Wound(s); | Amenity value/shade; Attractive landscape feature; Screen value; | C | 2 | Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ). |
| 35 | 328006.4 | 5818423.72 | <i>Photinia glabra</i> 'Rubens' | Red-leaved Photinia | Exotic Evergreen | 1 | 55 | 63 | 6.6 | 136.85 | 2.7 | 5-10 | 10-15 | Good | Poor | Mature | 10-15 | Co-dominant stems; Crossing/rubbing branches; Deadwood/stubs > 30mm; Epicormic growth; Poor pruning; Soil compaction; Wound(s); | Amenity value/shade; Attractive landscape feature; Screen value; | C | 2 | Retain tree with generic protection requirements (i.e. protective fencing and restriction of activities within the TPZ). |

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Appendix F. Tree protection plan

Exclusion of trees from work site using site fencing (red line) and/or existing perimeter fencing (yellow lines).



Figure 9. Site map showing retained trees with suggested Tree Protection Fence locations. ArborPlan, November 2024.

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