

Arboricultural Impact Assessment

The Children's Hospital at Westmead Stage 2 Redevelopment Final 20-1-20

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Summary

Tree Management Strategies have been commissioned on behalf of Health Infrastructure NSW by Pricewaterhousecoopers to provide an Arboricultural Impact Assessment (AIA) for two hundred and forty trees as part of The Children's Hospital at Westmead Stage 2 Redevelopment. 156 trees are potentially affected by the proposed Paediatric Services Building (PSB) and 84 trees by the Multiple Storey Carpark (MSCP). The report forms part of a State Significant Development Application (SSDA). The current potential project footprint is shown in (Figure 1a) and (Figure 1b)

The assessment is in accordance with AS 4970- 2009 Protection of trees on development sites and aims to:

- Assess the Health, Condition and Retention Value of two hundred and forty trees on the subject site.
- Calculate the impact the proposed development will have on all trees assessed.
- Recommend the retention or removal of trees on the subject site.

Two hundred and forty trees were assessed on the subject sites, all tree assessment data is shown in The Tree Data Schedule (Appendix 5). The Tree Location Plan (Appendix 1) shows all trees assessed, their retention values and their identification number. All tree values are in accordance with IACA Significance of a Tree, Assessment Rating System (STARS) © (IACA 2010) ©, which is detailed in the Method (Section 2) of the report.

The incursions to the theoretical Tree Preservation Zones (TPZ) potentially affecting trees assessed on the proposed PSB and MSCP sites are shown on the Tree Impact Plans (Appendix 2, 3 and 4) with the total incursion percentages detailed in the Tree Data Schedule (Appendix 5).

The tree impacts are separated into four categories: Building envelope, Storm water, Landscape and Pavement Reinstatement. The impacts assessments are explained in the Developmental Impacts (Section 3) of the report.



Conclusion

Paediatric Services Building

The current Development Footprint which includes the; Landscape Plan, Stormwater Plan and Pavement Reinstatement requires the removal of Tree 10-37, 43-59, 62-90, 93, 99, 100, 102 and 122-130. Tree 41, 42, 60, 61, 97, 98, 101, 103, 104, 105, 108-121, 131- 155 will remain healthy and viable into the future with the Tree Protection measures outlined in the Tree Protection Plan (Section 4) of the report. Out of a total of 156 trees assessed, 77 require removal, 9 have been previously removed leaving a total of 70 that will be retained under the current proposal. The total Canopy Cover of the PSB prior to tree removal is estimated at 5562m2, the tree removal canopy is estimated at 4075m2 with a total remaining canopy of 1487m2.

Multiple Storey Building

The current Development Footprint, Landscape Plan and Stormwater Plan requires the removal of Tree 159-163, 172-189, 190-211, 224-234 and 237-240. Tree 156-158, 164-171, 212-223 and 235 will remain healthy and viable into the future with the Tree Protection measures outlined in the Tree Protection (Section 4) of this report. Out of a total of 84 trees assessed, 58 require removal and 26 will be retained under the current proposal. The total Canopy Cover of the MSCP prior to tree removal is estimated at 2837m2, the tree removal canopy is estimated at 1943m2 with a total remaining canopy of 894m2.



Recommendations

Paediatric Services Building

- 1. Remove Tree 10-37, 43-59, 62-90, 93, 99, 100, 102 and 122-130. Tree removal work to be undertaken in accordance with *AS 4373 Pruning of Amenity Trees*, using a qualified Arborist (minimum Australian Qualification Framework (AQF3) Level Arborist).
- 2. Adhere to the Tree Protection Plan (Section 4) of this report to ensure Tree 41, 42, 60, 61, 97, 98, 101, 103, 104, 105, 108-121, 131- 155 to be retained remain healthy and viable into the future.

Multiple Storey Carpark

- 1. Remove Tree 159-163, 172-179, 180-189, 190-195, 196-211, 224-234 and 237-240. Tree removal work to be undertaken in accordance with *AS* 4373 *Pruning of Amenity Trees*, using a qualified Arborist (minimum Australian Qualification Framework (AQF3) Level Arborist).
- 2. Adhere to the Tree Protection Plan (Section 4) of this report to ensure Tree156-158, 164-171, 212-223 and 235 to be retained remain healthy and viable into the future.

A review and possible amendments of this Arboricultural Impact Assessment should be conducted following the completion of detailed Landscape and Civil Plans to ensure the accuracy of Trees to be retained and removed.



1. Introduction

Tree Management Strategies have been commissioned on behalf of Health Infrastructure NSW by Pricewaterhousecoopers to provide an Arboricultural Impact Assessment (AIA) for two hundred and forty trees as part of The Children's Hospital at Westmead Stage 2 Redevelopment. 156 trees are potentially affected by the proposed Paediatric Services Building (PSB) and 84 trees by the Multi Storey Carpark (MSCP). The report forms part of a State Significant Development Application (SSDA). The current potential project footprint is shown in (Figure 1a) and (Figure 1b).

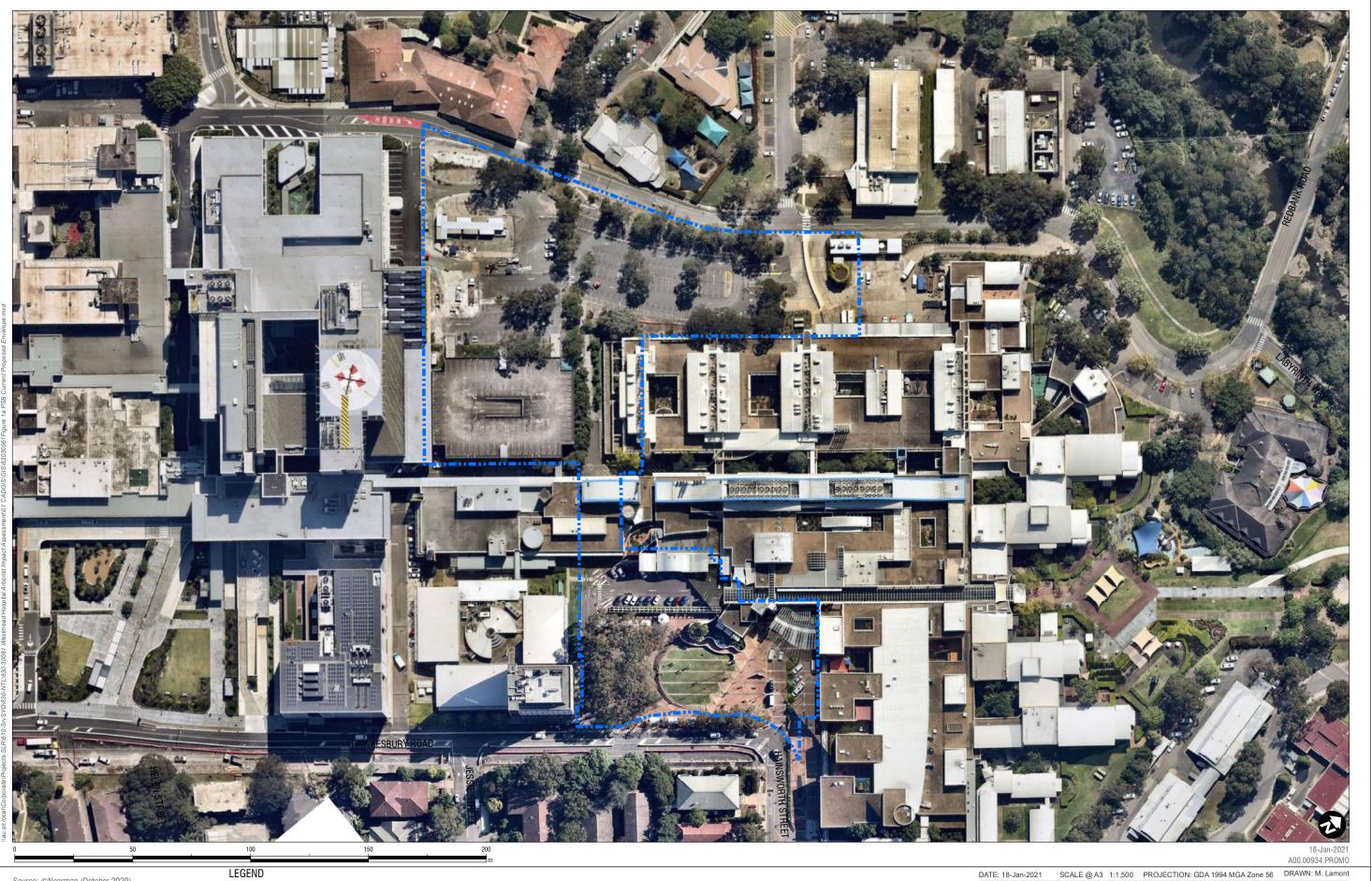
1.1 Paediatric Services Building (PSB)

The proposal seeks consent for the construction of a new Paediatric Services Building (PSB) to be located adjacent to the CASB, and on the site of the decommissioned P17 Car Park, including development of the Hawkesbury Road forecourt and access links. This includes works associated with CHW forecourt on Hawkesbury Road to provide improved community amenity in the form of a new front entry, improved street frontage and enable a more cohesive main entrance connecting existing CHW, adjoining research facilities, and the PSB.

The scope of proposed works includes:

- Construction of the main PSB:
- The main PSB contain the following uses: perioperative and interventional services, neonatal and paediatric intensive care units, cancer centre, acute inpatient beds, back of house and parent facilities
- Alterations and additions to existing CHW KR and CASB buildings adjoining PSB site area to accommodate floor realignment and movement corridors.
- Construction of a new pedestrian canopy link through KR, connecting the main PSB with the CHW forecourt and existing hospital entrance
- The canopy link is to be lifted 2 storeys above the CHW forecourt.
- A new ground plane / forecourt landscaped area extending from Hawkesbury Road to the proposed PSB
- Tree removal to accommodate the construction of the PS

Figure 1a - PSB Current Proposed Envelope



Source: ©Nearmap (October 2020)

Note: - Survey features based on Billard Leece Partnership Pty Ltd drawing CHW-AR-DG-PSB-03-XX020 C

Proposed Envelope PSB



CLIENT: Health Infrastructure NSW ADDRESS: The Children's Hospital at Westmead Redevelopment PLAN TITLE: Figure 1a PSB Current Proposed Envelope

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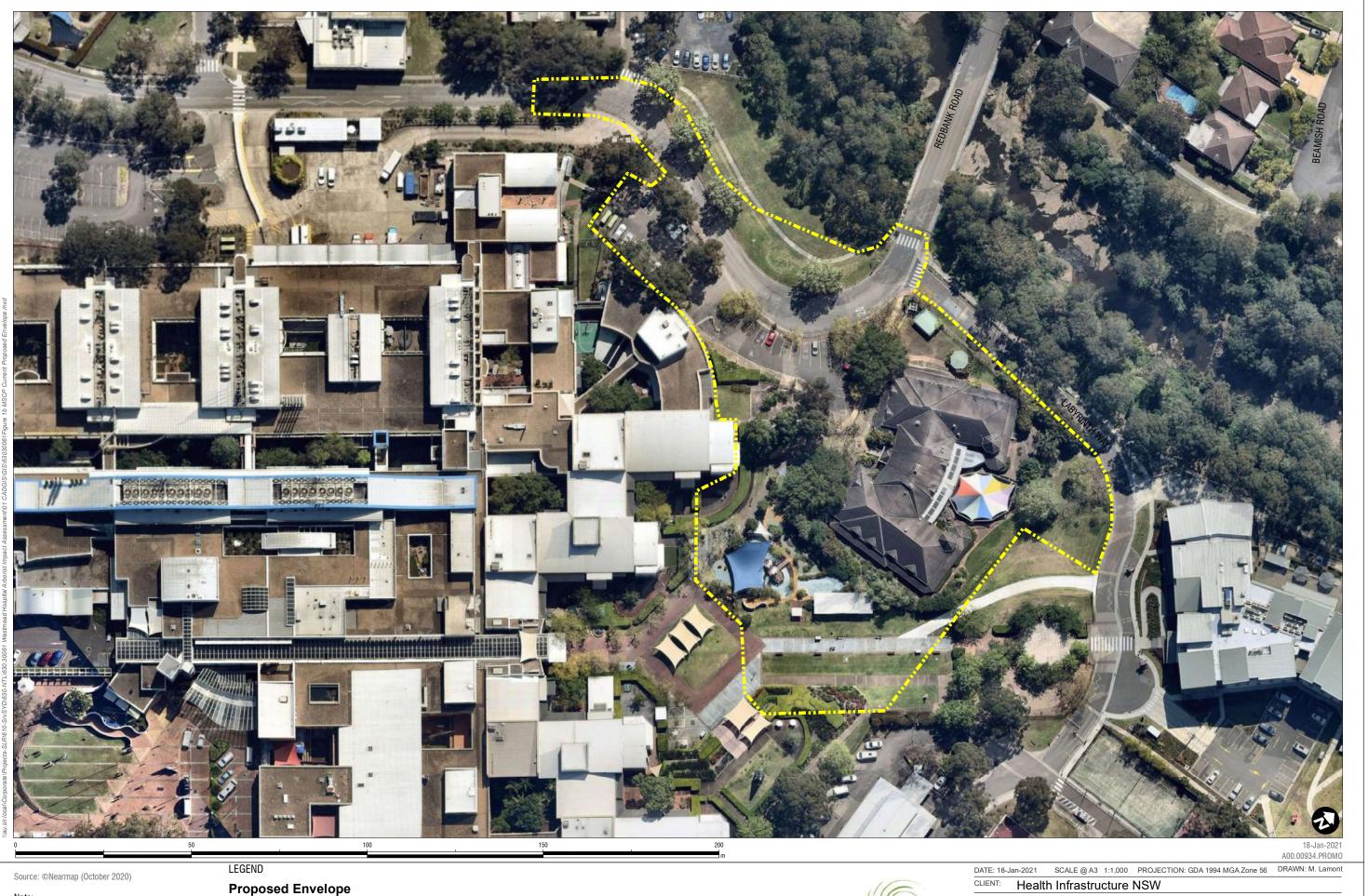
1.2 Multiple Storey Carpark (MSCP)

The proposed development under this SSDA is a Multiple Storey Car Park (MSCP) accommodating both staff and visitor car parking to be located on Labyrinth Way, on the site of The Lodge.

The scope of proposed works includes:

- Demolition of The Lodge
- Construction of a new MSCP to a maximum height of RL 42.10, approximately 8 car parking storeys, which is equivalent to the height of 5 storeys of the hospital
- Facilitating up to around 992 car parking spaces for staff and visitors
- Vehicular access from Labyrinth Way and / or Redbank Road
- A split-level approach to the MSCP to respond to the natural ground level
- Ancillary retail facilities
- Road works
- Realignment of Redbank Road with vehicular access connection to MSCP
- Tree removal
- Associated landscape works
- The MSCP is being designed and constructed as a single stage car parking and will be staged operationally to come on-line with parking demand across the precinct.
- The first stage of car parking operation would provide replacement car parking for the demolished P17 car park. There would be no net increase of parking on site during this stage of development.
- The second stage of car parking operation to serve the growth in hospital activity associated with the future PSB (subject to a separate SSDA) would only come on-line operationally with the PSB SSDA consent becoming operational, specifically at occupation. This would provide growth of around 280 additional spaces in line with hospital activity projections until 2031.

Figure 1b - MSCP Current Proposed Envelope



Note: - Survey features based on Billard Leece Partnership Pty Ltd drawing CHW-AR-DG-MCP-DA009 MSCP



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ADDRESS: The Children's Hospital at Westmead Redevelopment PLAN TITLE: Figure 1b MSCP Current Proposed Envelope

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1.3 Heritage Consideration

To determine whether any tree has been assessed as a significant heritage item by Paramatta Council. A search of the Parramatta Local Government Area (LGA) Local Environmental Plan (LEP) NSW Legislation Appendix 9 Heritage Conservation, Parramatta Local Environmental Plan (PLEP), and the Development Control Plan (DCP) Part 9 was completed. No significant heritage tree is registered or documented in any of the documents mentioned above. Furthermore, the National Trust of Australia advises that significant heritage trees are registered with the LGA, and proponents of a development will be notified by the governing authority if the development site contains a tree of significance.

1.4 Aim

- Assess the Health, Condition and Retention value of two hundred and forty trees on the subject site.
- Calculate the impact the proposed development will have on all trees assessed.
- Recommend the retention or removal of trees on the subject site.
- Provide an assessment that is in accordance with AS 4970- 2009 Protection of trees on development sites and aims to.
- Ensure the Planning Secretary's Environmental Assessment Requirements for the PSB and MSCP are satisfied.

2. Method

2.1 Site Assessment

From the ground, the following information was recorded and displayed in the Tree Data Schedule (Appendix 5).

- Tree genus and species.
- Approximate height spread if deemed applicable.
- Trunk diameter at breast height and above the buttress.
- Age class: young, semi mature, mature, over mature.
- Health.
- Condition.

Observations were recorded and trees photographed.

2.2 Research

The following legislation, documents or websites were reviewed:

- Parramatta City Council Local Environmental Plan (LEP) 2013.
- Parramatta City Council Development Control Plan (DCP) 2011.



2.3 Tree Data Schedule Method

The Health and Condition of two hundred and forty trees are shown in the Tree Data Schedule (**Appendix 5**) with the methods explained below:

Tree Health

Overall Health (Vigour/Vitality)	Tree vigour is exhibited by crown density, crown cover, leaf colour, leaf size, leaf texture, presence of epicormic growth, ability to withstand predation by pest and disease, resistance and degree of dieback.			
Good (Excellent)	Good tree vigour exhibited by no decline in overall health and vigour, height and shape. The specimen is observed to be of excellent condition displaying characteristics that is known for that particular species (what would be the expected condition for that particular species of that age in that location), 0% dieback, full crown density, leaf health, no pest or disease present.			
Fair	Fair tree vigour exhibited by moderate decline in overall health and vigour, height and shape. The specimen is observed to be of moderate condition by not displaying characteristics adequately that is known for that particular species (what would be expected for that particular species of that age in that location), less than 10% dieback, 90% of crown foliage density, more than 90% leaf health, acceptable level of pest or disease is evident for the assessing arborist (where it is considered the tree's overall health or condition will not be affected or lead to irreversible decline from pest or disease).			
Fair/Poor	Fair to poor tree vigour exhibited by considerable decline in overall health and vigour, height and shape. The specimen is observed to be of less than acceptable condition by not displaying characteristics adequately that is known for that particular species (what would be expected for that particular species of that age in that location), 10-20% dieback, considerable foliage deficiencies, 70-90% foliage density, 70- 90% leaf health, pest or disease infestation at acceptable thresholds for the assessing arborist (where it is considered the tree's overall health or condition will not be affected or lead to irreversible decline from pest or disease).			
Poor	Poor vigour exhibited by substantial decline in overall health and vigour, height and shape. The specimen is observed to be of poor condition by not displaying characteristics adequately that is known for that particular species (what would be expected for that particular species of that age in that location), 20-30% dieback, considerable foliage deficiencies, 50-70% leaf health, pest or disease infestation at unacceptable infestation			

	level that exceeds thresholds for the assessing arborist (where it is considered the tree's overall health or condition will be affected or lead to irreversible decline from pest or disease).
Very Poor	Very poor vigour exhibited by irreversible decline in overall health and vigour, height and shape. The specimen is observed to be of less than acceptable condition by not displaying characteristics adequately that is known for that particular species (what would be expected for that particular species of that age in that location), 15-50% dieback; severe foliage deficiencies; 30-50% density; 30-50% leaf health; pest or disease infestation at severe infestation level that exceeds thresholds for the assessing arborist (where it is considered the tree's overall health or condition will be affected or lead to irreversible decline from pest or disease).
Dead	Dead tree vigour exhibited by complete decline in overall health and vigour, height and shape. The specimen is observed to be dead by not displaying any characteristics adequately that is known for that particular species (what would be expected for that particular species of that age in that location), tree holds less than 15% foliage; branching is dead throughout canopy, pest or disease infestation at severe infestation level that exceeds thresholds for the assessing arborist (where it is considered the tree's overall health or condition will be affected or lead to irreversible decline from pest or disease).



Tree Condition

Overall Condition	The tree condition as identified by the arborist in regard to		
(Structure/Stability)	defects in structure and stability.		
Good (Exceptional specimen)	No damage or decay observed to the root plate, visible basal and /or root flare, stable in ground, well tapered branches with sound open unions. All characteristics within thresholds for the assessing arborist.		
Fair (Standard tree – no observable major defects to suggest that there is an increased likelihood of tree or part of tree failure)	Minor damage or decay observed to root plate, trunk or primary branches or branch unions (1 st or 2 nd branch order or scaffolding branch), well-formed branch unions, minor branch end weight or over-extensions within thresholds for the assessing arborist.		
Fair/Poor	Moderate damage or decay observed to root plate, trunk or primary branches or branch unions (1 st or 2 nd branch order or scaffolding branch); minimal basal/root flare; acute branch; past branch failure(s); moderate branch end- weight or over-extension approaching thresholds for the assessing arborist.		
Poor	Major damage or decay observed to root plate, trunk or primary branches or branch unions (1 st or 2 nd branch order or scaffolding branch) no observable basal and /or root flare; acute branch unions starting to include bark; major branch end-weight or over-extension at or exceeds thresholds for the assessing arborist.		
Very Poor	Excessive damage or decay observed to root plate, trunk, primary branch or branch unions (1 st or 2 nd branch order or scaffolding branch), excessive decay or hollows compromising the structural integrity, unstable in ground, excessive branch end-weight, included-bark unions, exceeding thresholds for assessing arborist. Failure probable.		
Failed	Failure of root plate or trunk or primary branch or branch unions (1 st or 2 nd branch order or scaffolding branch) or active split between branch unions or severe damage to primary tree structure.		



2.4 Tree Retention Value Method

IACA Significance of a Tree, Assessment Rating System (STARS) © (IACA 2010) ©

In the development of this document IACA acknowledges the contribution and original concept of the Footprint Green Tree Significance & Retention Value Matrix, developed by Footprint Green Pty Ltd in June 2001.

The landscape significance of a tree is an essential criterion to establish the importance that a particular tree may have on a site. However, rating the significance of a tree becomes subjective and difficult to ascertain in a consistent and repetitive fashion due to assessor bias. It is therefore necessary to have a rating system utilising structured qualitative criteria to assist in determining the retention value for a tree. To assist this process all definitions for terms used in the Tree Significance - Assessment Criteria and Tree Retention Value - Priority Matrix, are taken from the IACA Dictionary for Managing Trees in Urban Environments 2009.

This rating system will assist in the planning processes for proposed works, above and below ground where trees are to be retained on or adjacent a development site. The system uses a scale of High, Medium and Low significance in the landscape. Once the landscape significance of an individual tree has been defined, the retention value can be determined.

Tree Significance - Assessment Criteria



High Significance in landscape

- The tree is in good condition and good vigour. The tree has a form typical for the species.
- The tree is a remnant or is a planted locally indigenous specimen and/or is rare or uncommon in the local area or of botanical interest or of substantial age.
- The tree is listed as a Heritage Item, Threatened Species or part of an Endangered Ecological Community or listed on a council's Significant Tree Register.
- The tree is visually prominent and visible from a considerable distance when viewed from most directions within the landscape due to its size and scale and makes a positive contribution to the local amenity.
- The tree supports social and cultural sentiments or spiritual associations, reflected by the broader population or community group or has commemorative values.
- The tree's growth is unrestricted by above and below ground influences, supporting its ability to reach dimensions typical for the taxa in situ tree is appropriate to the site conditions.



Medium Significance in landscape

- The tree is in fair to good condition and good or low vigour.
- The tree has form typical or atypical of the species.
- The tree is a planted locally indigenous or a common species with its taxa commonly planted in the local area.
- The tree is visible from surrounding properties, although not visually prominent as partially obstructed by other vegetation or buildings when viewed from the street.
- The tree provides a fair contribution to the visual character and amenity of the local area.
- The tree's growth is moderately restricted by above or below ground influences, reducing its ability to reach dimensions typical for the taxa in situ.

Low Significance in landscape

- The tree is in fair to poor condition and good or low vigour.
- The tree has form atypical of the species.
- The tree is not visible or is partly visible from surrounding properties as obstructed by other vegetation or buildings.
- The tree provides a minor contribution or has a negative impact on the visual character and amenity of the local area.
- The tree is a young specimen which may or may not have reached dimension to be protected by local Tree Preservation orders or similar protection mechanisms and can easily be replaced with a suitable specimen.
- The tree's growth is severely restricted by above or below ground influences, unlikely to reach dimensions typical for the taxa in situ tree is inappropriate to the site conditions.
- The tree is listed as exempt under the provisions of the local Council Tree Preservation Order or similar protection mechanisms.
- The tree has a wound or defect that has potential to become structurally unsound.
- Environmental Pest/Noxious Weed Species.
- The tree is an Environmental Pest Species due to its invasiveness or poisonous/allergenic properties.
- The tree is a declared noxious weed by legislation.
- Hazardous and or Irreversible Decline.
- The tree is structurally unsound and/or unstable and is considered potentially dangerous.
- The tree is dead, or is in irreversible decline, or has the potential to fail or collapse in full or part in the immediate to short term.

The tree is to have a minimum of three (3) criteria in a category to be classified in that group.

Note: The assessment criteria are for individual trees only, however, can be applied to a mono-cultural stand in entirety.

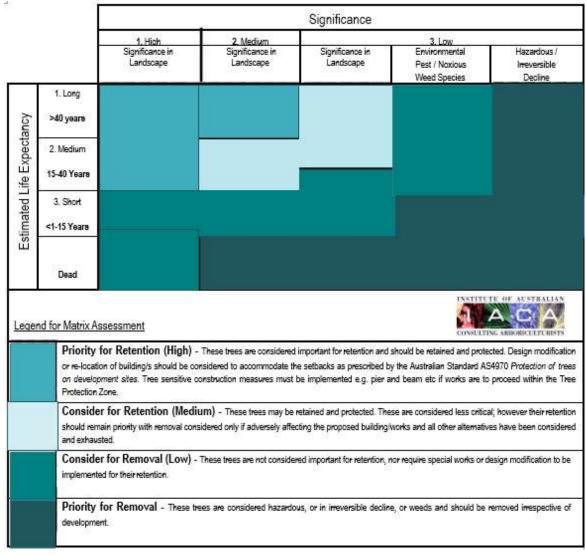


Useful Life Expectancy (ULE)

Useful life expectancy (ULE) is a measure of a trees remaining lifespan regarding its health, condition and locality ULE categories were measured as:

- a) Long (greater than 40 years)
- b) Medium (between 15 and 40 years)
- c) Short (between 1 and 15 years)
- d) Dead

Tree Retention Value - Priority Matrix



REFERENCES

Australia ICOMOS Inc. 1999, The Burra Charter – The Australian ICOMOS Charter for Places of Cultural Significance, International Council of Monuments and Sites, <u>www.icomos.org/australia</u>

Draper BD and Richards PA 2009, *Dictionary for Managing Trees in Urban Environments*, Institute of Australian Consulting Arboriculturist (IACA), CSIRO Publishing, Collingwood, Victoria, Australia.

Footprint Green Pty Ltd 2001, Footprint Green Tree Significance & Retention Value Matrix, Avalon, NSW Australia, www.footprintgreen.com.au



2.5 Tree Protection Zone and Structural Root Zone Method

Following the VTA, The Tree Preservation Zones and Structural Root zones were calculated and added to the Tree Data Schedule (Appendix 5) and the Tree Impact Plans (Appendix 2-4) with the methods explained below:

<u>The Structural Root Zone</u> (SRZ) is the area around the base of a tree required for its stability. The woody root growth and soil cohesion in this area are necessary to hold the tree upright; therefore, there are no variations to its size. The SRZ is normally circular with the trunk at its centre and is expressed by its radius in metres (AS – 4970). Due to the potential of causing instability of a tree, it is highly recommended that no roots within its SRZ are pruned or removed. SRZ, which is the area required for tree stability, was calculated as follows: SRZ radius = (D x 50) 0.42 x 0.64.

The Tree Protection Zone (TPZ) is the principle means of protecting trees on development sites. The TPZ is a combination of the root area and crown area that requires protection. It is an area isolated from construction disturbance, so that the tree remains viable (AS – 4970). The radius of the TPZ is calculated for each tree by multiplying its DBH x 12. TPZ = DBH Х 12 ground (DBH = trunk diameter measured at 1.4m above level). The radius of the TPZ is measured from COT (Centre of the trunk).

Variations to the Tree Protection Zone (TPZ)

General

It may be possible to encroach into or make variations to the standard TPZ. Encroachment Includes excavation, compacted fill and machine trenching.

Minor encroachment

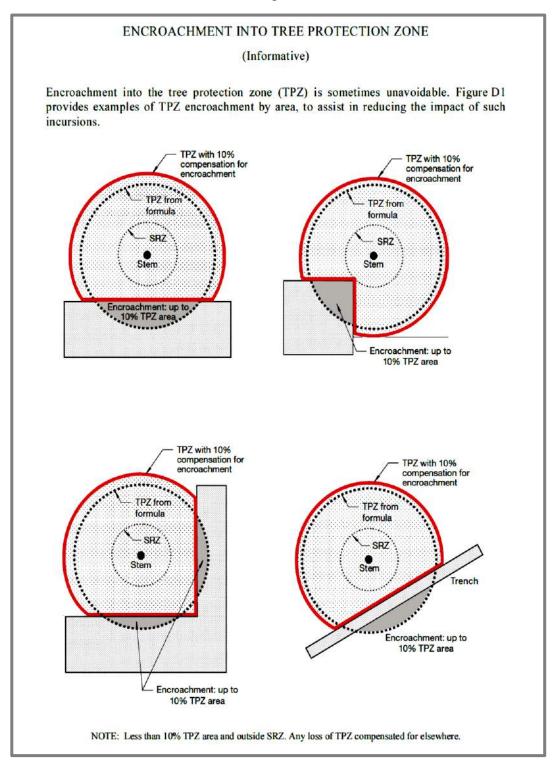
If the proposed encroachment is less than 10% of the area of the TPZ and is outside the SRZ, detailed root investigations should not be required. The area lost to this encroachment should be compensated for elsewhere and contiguous with the TPZ. Variations must be made by the project arborist considering relevant factors. (Figure 2) demonstrates some examples of possible encroachment into the TPZ up to 10% of the area.

Major encroachment

If the proposed encroachment is greater than 10% of the TPZ or inside the SRZ the project arborist must demonstrate that the tree(s) would remain viable. The area lost to this encroachment should be compensated for elsewhere and contiguous with the TPZ. This may require root investigation by non-destructive methods and consideration of relevant factors listed in the Clause.



Figure 2





3. Developmental Impacts/Observations

3.1 General Tree observations

Two hundred and forty trees were assessed on the subject sites, all tree assessment data is shown in The Tree Data Schedule (Appendix 5). The Tree Location Plan (Appendix 1) shows all trees assessed, their retention values and their identification number. All tree values are in accordance with IACA Significance of a Tree, Assessment Rating System (STARS) © (IACA 2010) ©, refer to the Method (Section 2) of this report.

The trees within the subject site are a mixture of native and exotic species of varying ages, health and vigour. Figure 2, 3 and 4 depicts the subject trees from locations around the proposed development.



Figure 2: Depicts Tree 10 to 37 located in the proposed kids park, photo taken facing to the south east.





Figure 3: Depicts Tree 136 to 148 within the PSB envelope, photo taken facing West.



Figure 4: Depicts tree 175 to 198 within the MSCP envelope, photo taken facing West.



3.2 Developmental Impacts

The tree impacts detailed below are based on the plans referenced in (Section 5) of this document. Amendments to this report or additional Arboricultural Impact Assessments may be required following the completion of final detailed plans.

The tree impacts are analysed separately between the PSB and MSCP footprints.

The Health, Condition, Retention Value, General data and incursion percentages of Tree 1-240 are displayed in the Tree Data Schedule (Appendix 5) and shown on the Tree Impact Plans (Appendix 2-4).

Paediatric Services Building

The incursions to the theoretical Tree Preservation Zones (TPZ) potentially affecting trees assessed on the proposed PSB site are shown on the Tree Impact Plans (Appendix 2 and 3) with the total incursion percentages detailed in the Tree Data Schedule (Appendix 5).

The tree impacts are separated into four developmental impact categories:

- Development Footprint
- Storm water
- Landscape (Kidspark)
- Pavement Reinstatement

Multiple Storey Carpark

The incursions to the theoretical Tree Preservation Zones potentially affecting trees assessed on the proposed MSCP site are shown on the Tree Impact Plan (Appendix 4) with the total incursion percentages detailed in the Tree Data Schedule (Appendix 5).

The tree impacts are separated into three developmental impact categories:

- Development Footprint
- Storm water
- Landscape



3.3 Paediatric Services Building

Development Footprint

Tree 43-59, 62-90, 93, 123-125 and 130 within the subject site have a total incursion to their SRZ and TPZ by the Development Footprint that requires their removal for the proposed development to proceed, refer to the PSB Impact Plan (Appendix 2).

Tree 91, 92, 95, 96 and 107 within the PSB envelope were previously assessed under an earlier Arboricultural Impact Assessment (AIA) prepared by Tree Management Strategies dated the 24-9-20. The AIA considered the impact of a Sewer Pipe, Manhole and Fire Brigade Parking Hardstand which recommended the removal of Tree 91, 92 and 96 and the protection of Tree 95 and 107.

Tree 60, 61 and 132-135 are unaffected by the development.

Tree 41, 42 and 131 have a minor incursion to their TPZ by the Development Footprint which is deemed acceptable, however will require tree protection, refer to the PSB Impact Plan (Appendix 2).

Design modifications: N/A

Tree Sensitive construction: N/A

Tree Protection measures:

Trunk protection is recommended for tree 41 and 42, refer to the Tree Protection Plan (Section 4) of this report.

To ensure no damage occurs to Tree 131-135, a Tree Protection fence is recommended, refer to the Tree Protection Plan (Section 4) of this report.

Conclusion:

The current development footprint requires the removal of Tree 43-59, 62-90, 93, 123-125 and 130.

Tree 41, 42, 60, 61, 131- 135 will remain healthy and viable into the future with Tree Protection measures adhered to.



Storm Water

Tree 126-129 within the subject site have a total incursion to their SRZ and TPZ by the Stormwater Design that requires their removal for the proposed development to proceed, refer to the PSB Impact Plan (Appendix 2).

Tree 104 and 105 have a minor incursion to their TPZ by the proposed Stormwater Line which is deemed acceptable, refer to the PSB Impact Plan (Appendix 2), however will require tree protection.

Tree 108-121 and 135-155 are unaffected by the development, however, will require tree protection.

Design modifications: N/A

Tree Sensitive construction: N/A

Tree Protection measures:

Trunk protection is recommended for tree 104, 105 and 106, refer to the Tree Protection Plans (Section 4) of this report.

To ensure no damage occurs to Tree 108-121 and 136-155, a Tree Protection fence is recommended, refer to the Tree Protection Plan (Section 4) of this report.

Conclusion:

The current Stormwater design requires the removal of Tree 126-129.

Tree 104, 105, 108-121 and 135-155 will remain healthy and viable into the future with Tree Protection measures adhered to.



Landscape (Kids Park)

Tree 10-37 within the project boundary have a total incursion to their SRZ and TPZ by the Concept Landscape Plan that requires their removal for the proposed development to proceed, refer to the PSB Landscape Kidspark Impacts Plan (Appendix 3).

Tree 1-9 were previously removed as part of an earlier works with planning approval.

Design modifications: N/A

Tree Sensitive construction: N/A

Tree Protection measures: N/A

Conclusion:

The current Landscape Design requires the removal of Tree 10-37.



Pavement Reinstatement

Tree 99, 100, 102 and 122 within the subject site have a total incursion to their SRZ and TPZ by the Pavement Reinstatement that requires their removal for the proposed development to proceed, refer to the PSB Impact Plan (Appendix 2).

Tree 97, 98, 103, 120 and 121 are unaffected by the development, however will require tree protection.

Tree 101 has a minor incursion to their TPZ by the Pavement Reinstatement, which is deemed acceptable, refer to the PSB Impact Plan (Appendix 2) and will require tree protection.

Design modifications: N/A

Tree Sensitive construction: N/A

Tree Protection measures:

Trunk protection is recommended for Tree 97, 98, 101, 103, 120 and 121, refer to the Tree Protection Plan (Section 4) of this report.

Conclusion:

The current Pavement Reinstatement Design requires the removal of Tree 99, 100, 102 and 122.

Tree 97, 98, 101, 103, 120 and 121 will remain healthy and viable into the future with Tree Protection measures adhered to.



3.4 Multiple Storey Carpark Envelope

Development Footprint

Tree 159-163, 175-178, 180-189, 191-194, 197-201, 206-210, 225-233 and 237-240 within the subject site have either total or major incursions to their SRZ and TPZ by the Development Footprint that requires their removal for the proposed development to proceed, refer to the MSCP Impact Plan (Appendix 4).

Tree 156-158, 164-171 and 235 are unaffected by the development, however, will require tree protection.

Design modifications: N/A

Sensitive Construction: N/A

Tree Protection measures:

To ensure no damage occurs to Tree 156-158, 164-171 and 235, a Tree Protection fence is recommended, Tree Protection Plan (Section 4) of this report.

Conclusion:

The current development footprint requires the removal of Tree 159-163, 175-178, 180-189, 191-194, 197-201, 206-210, 225-233 and 237-240.

Tree 156-158, 164-171 and 235 will remain healthy and viable into the future with Tree Protection measures adhered to.



Stormwater

Tree 196, 224 and 234 within the subject site have either a total or major incursion to their SRZ and TPZ by the Stormwater design that requires their removal for the proposed development to proceed, refer to the MSCP Impacts Plan (Appendix 4).

Design modifications: N/A

Tree Sensitive construction: N/A

Tree Protection measures: N/A

Conclusion:

The current Stormwater design requires the removal of Tree 196, 224 and 234.

Landscape

Tree 172-174, 179, 190, 195, 202-205, 211 and 234 within the project boundary have a total incursion to their SRZ and TPZ by the proposed Landscape Plan that requires their removal for the development to proceed, refer to the MSCP Impacts Plan (Appendix 4).

Tree 212-223 are unaffected by the development, however, will require Tree Protection.

Design modifications: N/A

Tree Sensitive construction: N/A

Tree Protection measures:

To ensure no damage occurs to Tree 216-223 a Tree Protection fence is recommended, Tree Protection Plan (Section 4) of this report.

Conclusion: The current Concept Landscape Plan requires the removal of Tree 172-174, 179, 190, 195, 202-205, 211 and 234.

Tree 216-233 will remain healthy and viable into the future with sensitive construction and Tree Protection measures adhered to.

4. Tree Protection Plan

The Tree Management Plan is designed to offer detailed design modifications or sensitive construction methods and a step by step timeline for Tree Protection Measures.

Paediatric Services Building

Step 1: Confirm trees to be removed

The Project Arborist must confirm with a numbered tag and or florescent tape the trees to be removed.

Step 2: Trunk Protection

To ensure the protection of trees affected by the proposed development Trunk Protection is required for Tree 41, 42, 97, 98, 101, 103, 104, 105 and 106 as per the detail outline in (Figure 5).

The Project Arborist must certify the protection measures are installed to the required specifications prior to commencement of construction. The trunk protection should remain in place for the duration of construction

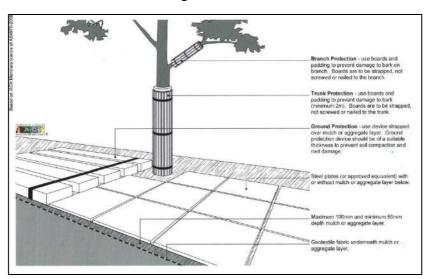


Figure 5

Figure 5: Example of Trunk Protection (CSA 2009).



Step 3: Erect Tree Protection Fence

As nominated on the Tree Impact Plan (Appendix 2) a tree protection fence is to be erected around trees 131-135, 107-121 and 131-155. The fence detailed in (Figure 6) needs to be erected throughout construction and may be dismantled when landscaping begins. The Project Arborist must certify the protection measures are in the correct location and to specifications prior to commencement of construction.

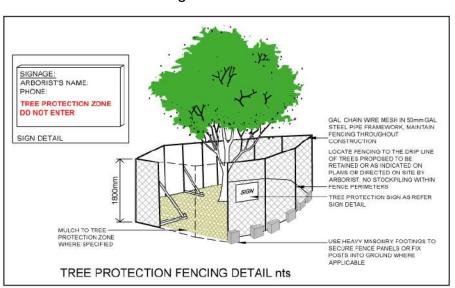


Figure 6

Figure 6: Tree Protection fence detail (CSA 2009).

Step 4: Monitoring

The Project Arborist must inspect all trees to be retained bi-monthly to ensure tree protection measures are being adhered to and the health of all trees is not being adversely affected.



Step 5: General Exclusions within the TPZ

The following activities shall be excluded within the TPZ:

- Excavation, compaction or disturbance of the existing soil.
- The movement or storage of materials, waste or fill.
- Soil level changes.
- Disposal and runoff of waste materials and chemicals including paint, solvents, cement slurry, fuel and oil.
- Other toxic liquids.
- Movement or storage of plant, machinery, equipment or vehicles.
- Any activity likely to damage the trunk, crown or root system of the trees.

The Project Arborist must be notified in the event any disturbance within the TPZ of trees to be retained is required.

Step 6: Final Certification

Upon completion of construction the Project Arborist will certify that the health and condition of all trees to be retained have not been adversely affected by the development.



Multiple Storey Carpark

Step 1: Confirm trees to be removed

The Project Arborist must confirm with a numbered tag and or florescent tape the trees to be removed.

Step 2: Erect Tree Protection Fence

As nominated on the Tree Protection Plan (Appendix 4) a tree protection fence is to be erected around trees 156-158, 164-171, 216-233 and 235. The fence detailed in (Figure 7) needs to be erected throughout construction and may be dismantled when landscaping begins. The Project Arborist must certify the protection measures are in the correct location and to specifications prior to commencement of construction.

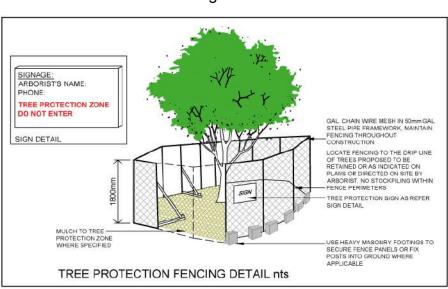


Figure 7

Figure 7: Tree Protection fence detail (CSA 2009).



Step 4: General Exclusions within the TPZ

The following activities shall be excluded within the TPZ:

- Excavation, compaction or disturbance of the existing soil.
- The movement or storage of materials, waste or fill.
- Soil level changes.
- Disposal and runoff of waste materials and chemicals including paint, solvents, cement slurry, fuel and oil.
- Other toxic liquids.
- Movement or storage of plant, machinery, equipment or vehicles.
- Any activity likely to damage the trunk, crown or root system of the trees.

The Project Arborist must be notified in the event any disturbance within the TPZ of trees to be retained is required.

Step 5: Monitoring

The Project Arborist must inspect all trees to be retained bi-monthly to ensure tree protection measures are being adhered to and the health of all trees is not being adversely affected.

Step 6: Final Certification

Upon completion of construction the Project Arborist will certify that the health and condition of all trees to be retained have not been adversely affected by the



5. Referenced Documents

Plans that were used in the calculation and mapping of tree impacts for this report include:

Plan Title	Drawing Number	Consultant	Revision	Job/Project Number
Proposed Plan Level 1 PSB	CHW-AR-DG- PSB-SSD010	Billard Leece Partnership Pty Ltd Architects & Urban Planners	16-11-20 A	19038
DRAINAGE PSB OVERALL PLAN	CHW-ARP-CV- DG-PS-00- XX600	ARUP	19-11-20 1	271985-00
PSB Kids Park	CHW-LD-DG- KIDP-SD101	Billard Leece Partnership Pty Ltd Architects & Urban Planners	Rev 2	19038
Site Plan- Proposed Roof Level MSCP	CHW-AR-DG- MCP-DA009	Billard Leece Partnership Pty Ltd Architects & Urban Planners	27-11-20 B	19038
Drainage Option 1- MSCP Overall Plan	CHW-ARP-CV- DG-MP-00- XX600	ARUP	27-11-20 1	271985-00
MSCP Plan (Landscape)	CHW-LD-DG- MSCP-SD-101	Billard Leece Partnership Pty Ltd Architects & Urban Planners	3	CHW Planning
Tree Location Plan Appendix 1	A00.00934	Tree Management Strategies	13-10-20	
PSB Impacts Plan Appendix 2	A00.00934	Tree Management Strategies	21-12-20	
PSB Landscape Kidspark Impacts Plan 3	A00.00934	Tree Management Strategies	21-12-20	
MSCP Impacts Plan Appendix 4	A00.00934	Tree Management Strategies	21-12-20	

No Sewer, Potable and Gas plans were reviewed as part of this assessment.



6. Conclusions & Recommendations

6.1 Conclusion

Paediatric Services Building

The current Development Footprint, Landscape Plan, Stormwater Plan and Pavement Reinstatement requires the removal of Tree 10-37, 43-59, 62-90, 93, 99, 100, 102 and 122-130.

Tree 41, 42, 60, 61, 97, 98, 101, 103, 104, 105, 108-121, 131- 155 will remain healthy and viable into the future with the Tree Protection measures outlined in the Tree Protection Plan (Section 4) of this report.

Out of a total of 156 trees assessed, 77 require removal 9 were previously removed leaving a difference of 70 trees that will be retained under the current proposal.

The total Canopy Cover of the PSB prior to tree removal is estimated at 5562m2, the tree removal canopy is estimated at 4075m2 with a total remaining canopy of 1487m2.

Multiple Storey Building

The current Development Footprint, Landscape Plan and Stormwater Plan requires the removal of Tree 159-163, 172-189, 190-211, 224-234 and 237-240.

Tree 156-158, 164-171, 212-223 and 235 will remain healthy and viable into the future with the Tree Protection measures outlined in the Tree Protection (Section 4) of this report.

Out of a total of 84 trees assessed, 58 require removal and 26 will be retained under the current proposal.

The total Canopy Cover of the MSCP prior to tree removal is estimated at 2837m2, the tree removal canopy is estimated at 1943m2 with a total remaining canopy of 894m2.



6.2 Recommendations

Paediatric Services Building

- 1. Remove Tree 10-37, 43-59, 62-90, 93, 99, 100, 102 and 122-130. Tree removal work to be undertaken in accordance with *AS 4373 Pruning of Amenity Trees*, using a qualified Arborist (minimum Australian Qualification Framework (AQF3) Level Arborist).
- 2. Adhere to the Tree Protection Plan (Section 4) of this report to ensure Tree 41, 42, 60, 61, 97, 98, 101, 103, 104, 105, 108-121, 131- 155 to be retained remain healthy and viable into the future.

Multiple Storey Carpark

- 1. Remove Tree 159-163, 172-179, 180-189, 190-195, 196-211, 224-234 and 237-240. Tree removal work to be undertaken in accordance with *AS* 4373 *Pruning of Amenity Trees*, using a qualified Arborist (minimum Australian Qualification Framework (AQF3) Level Arborist).
- 2. Adhere to the Tree Protection Plan (Section 4) of this report to ensure Tree156-158, 164-171, 212-223 and 235 to be retained remain healthy and viable into the future.

Following the completion of detailed Architectural, Civil and Landscape plans a comprehensive Arboricultural Impact Assessment should be prepared.



7. References

Shigo, A., 1986, A New Tree Biology and Dictionary: facts, photos, and philosophies on trees and their problems and proper care, Snohomish, WA

Council of Standards Australia (August 2009) The Australian Standard for the Protection of Trees on Development Sites (AS 4970 – 2009).

Harris, R., Clark, J., Matheny, N., 2003, Integrated Management of Landscape Trees, Shrubs, and Vines, fourth edition, Prentice Hall, Australia

IACA, 2010, IACA Significance of a Tree, Assessment Rating System (STARS), Institute of Australian Consulting Arboriculturists, Australia, <u>www.iaca.org.au</u>

Lonsdale, D. (1999). *Principles of Tree Hazard Assessment and Management*. Forestry Commission, London.

Mattheck, C and Breloer, H (1994) *The Body Language of Trees*. Research for Amenity Trees No.4, The Stationery Office, London.

Disclaimer:

By the nature of their size, weight and miscellaneous structure, constant exposure to the weather and the elements, susceptibility to insects, pest and decay organisms, and trees always pose an inherent degree of hazard and risk from breakage or failure.

There is no guarantee, expressed or implied, that problems or deficiencies of the subject trees may not arise in the future. No responsibility will be accepted for partial or full failure of any tree. No responsibility will be accepted for any damage or injury caused by any tree or part thereof referred to in this report.

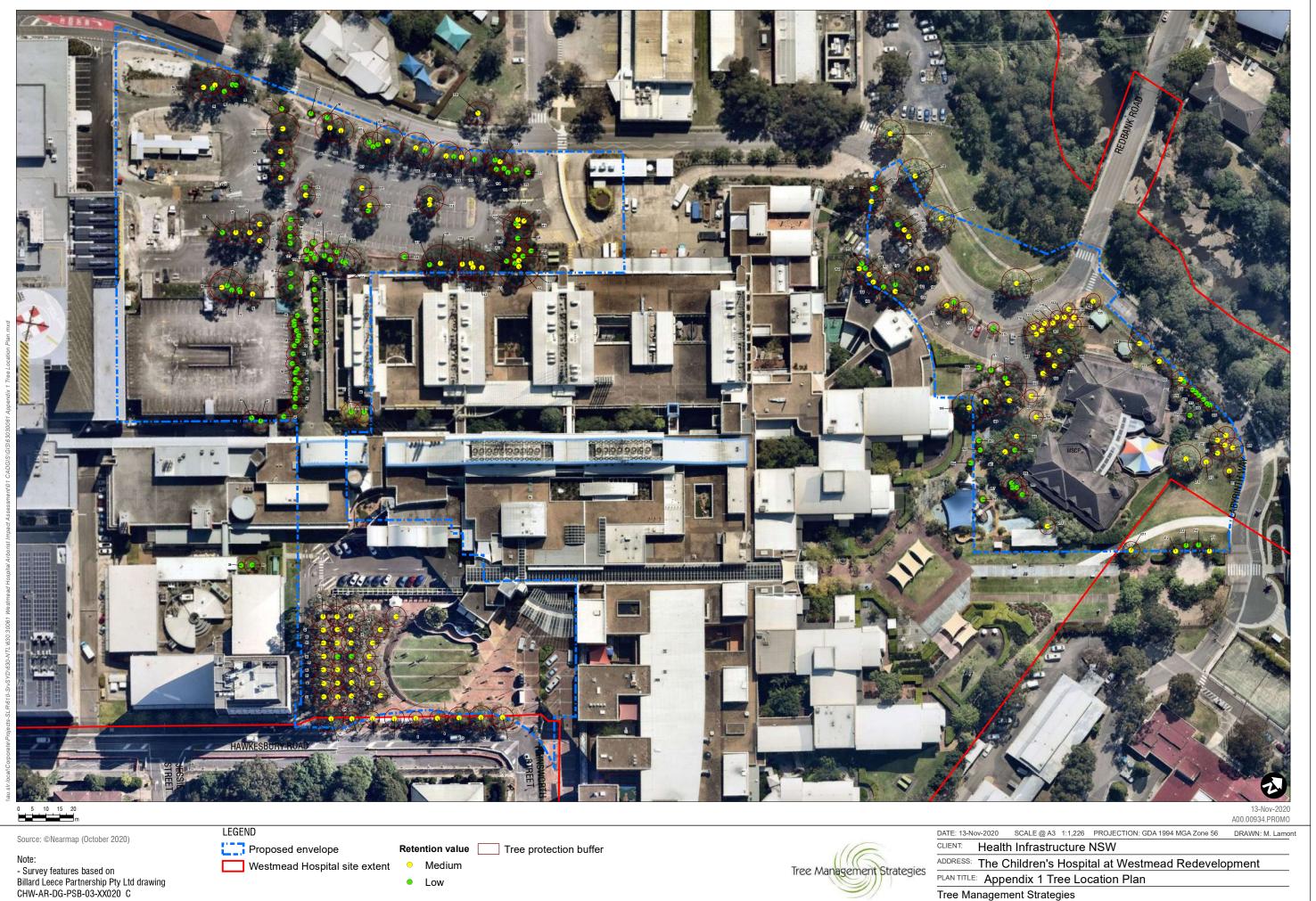
While great care is taken to accurately diagnose the condition of a tree, it is impossible to accurately determine the true structural condition of the entire tree and any diagnosis, opinions or recommendations expressed are based on several methods of determining tree health.



8. Appendices

Appendix 1: Tree Location Plan

Appendix 1 Tree Location Plan



- Survey features based on Billard Leece Partnership Pty Ltd drawing CHW-AR-DG-PSB-03-XX020 C

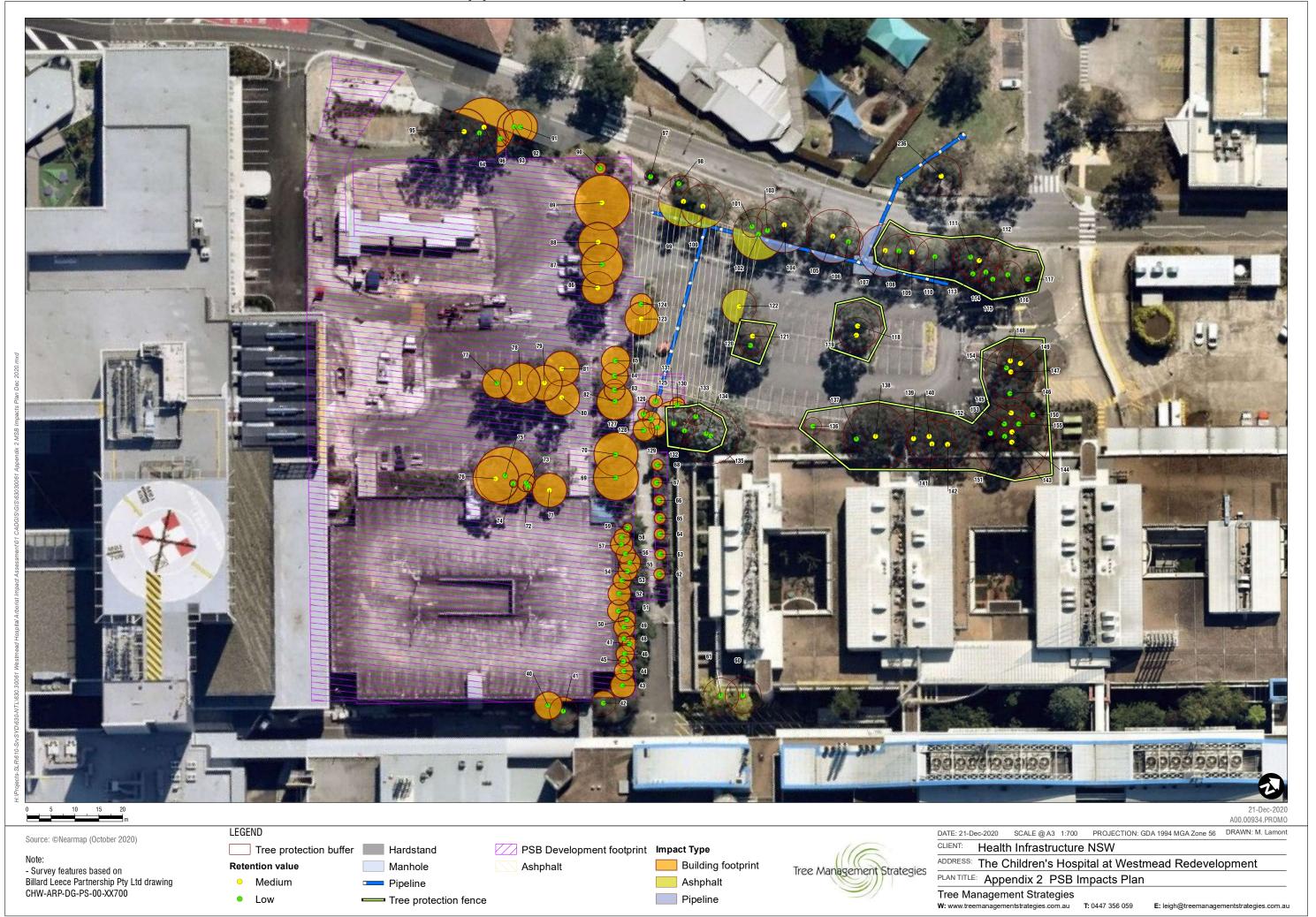
W: www.treemanagementstrategies.com.au T: 0447 356 059

E: leigh@treemanagementstrategies.com.au



Appendix 2: Tree Impact Plan PSB

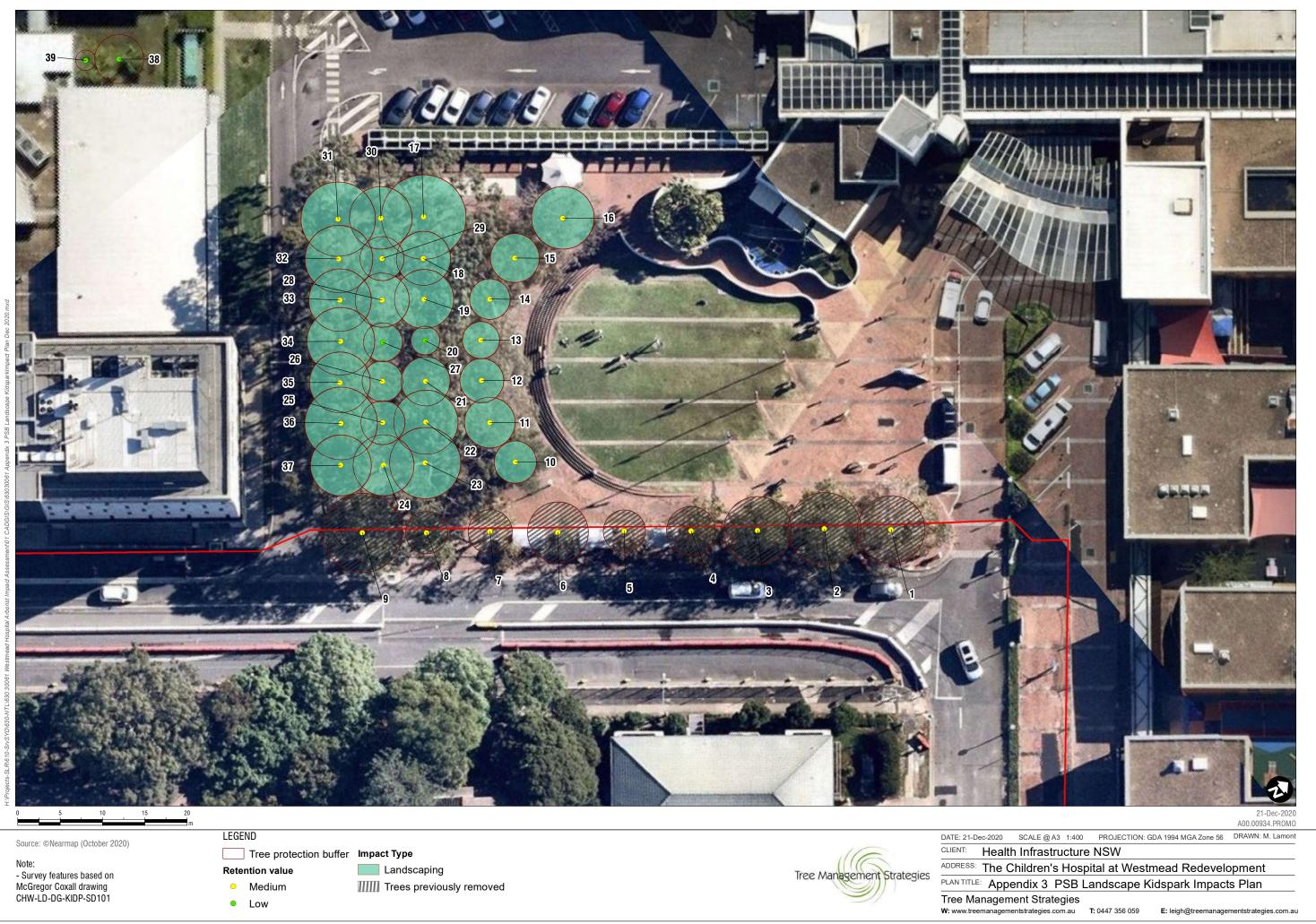
Appendix 2 PSB Impacts Plan





Appendix 3: Tree Impact Plan Kids Park

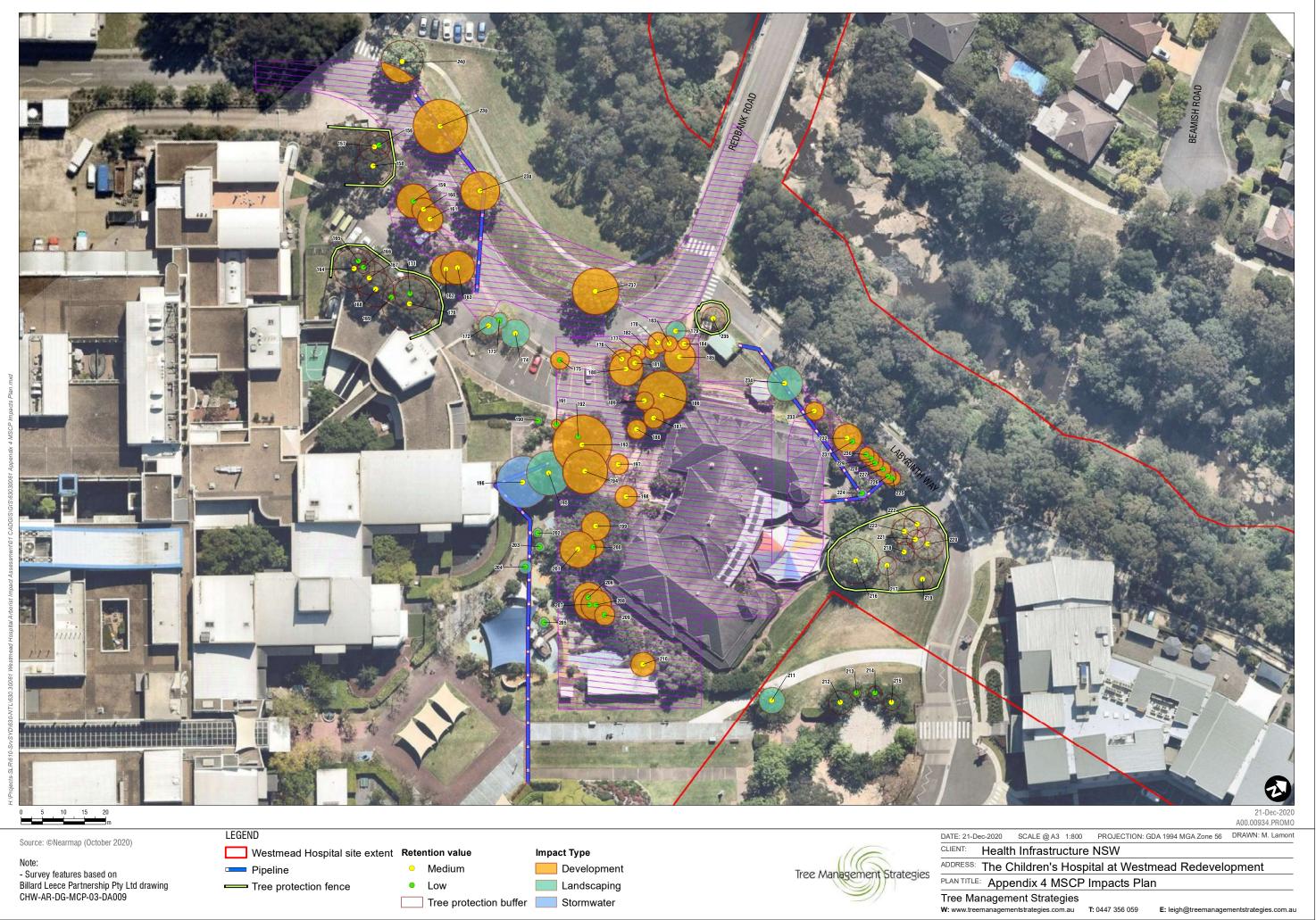
Appendix 3 PSB Landscape Kidspark Impacts Plan





Appendix 4: Tree Impact Plan MSCP

Appendix 4 MSCP Impacts Plan





Appendix 5: Tree Data Schedule

									1	Appendix 1 Tree Data So	chedule P	1							
No	Genus-Species	Common name	DAB metres (radius)	DBH metres (radius)	SRZ (radius)	TPZ (radius)	Height	Canopy Spread (Radius)	TPZ Incursion		Age	Health	Condition	Useful Life Expectancy	Landscape significance	Retention value	Sule	Observations/Comments	Retain/Remove
			Above buttress	Dia at Breast Height	Metres	Metres	Metres	Metres	%	Tree Impact	Young Semi- mature Mature Over-mature	Good Fair Fair/Poor Poor Failed	Good Fair Fair/Poor Poor Failed	High Medium Low	High Medium Low	High Medium Low	Safe Useful Life Expectancy		
1	Platanus orientalis 'Digitata'	Cut Leaf Plane Tree	0.37	0.32	2.2	4.0	12	5		Tree previously removed	Mature	Fair/Poor	Fair/Poor	Medium	Medium	Medium		Tree previously removed	
2	Platanus orientalis 'Digitata'	Cut Leaf Plane Tree	0.4	0.36	2.3	4.3	15	5		Tree previously removed	Mature	Fair/Poor	Fair/Poor	Medium	Medium	Medium		Tree previously removed	
3	Platanus orientalis 'Digitata'	Cut Leaf Plane Tree	0.37	0.33	2.2	4.0	14	4		Tree previously removed	Mature	Fair/Poor	Fair/Poor	Medium	Medium	Medium		Tree previously removed	
4	Platanus orientalis 'Digitata'	Cut Leaf Plane Tree	0.28	0.24	1.9	2.9	12	5		Tree previously removed	Mature	Fair/Poor	Fair/Poor	Medium	Medium	Medium		Tree previously removed	
5	Platanus orientalis 'Digitata'	Cut Leaf Plane Tree	0.23	0.21	1.8	2.5	10	4		Tree previously removed	Mature	Fair/Poor	Fair/Poor	Medium	Medium	Medium		Tree previously removed	
6	Platanus orientalis 'Digitata'	Cut Leaf Plane Tree	0.33	0.3	2.1	3.6	13	4		Tree previously removed	Mature	Fair/Poor	Fair/Poor	Medium	Medium	Medium		Tree previously removed	
7	Platanus orientalis 'Digitata'	Cut Leaf Plane Tree	0.25	0.22	1.8	2.6	14	4		Tree previously removed	Mature	Fair/Poor	Fair/Poor	Medium	Medium	Medium		Tree previously removed	
8	Platanus orientalis 'Digitata'	Cut Leaf Plane Tree	0.23	0.21	1.8	2.5	14	5		Tree previously removed	Mature	Fair/Poor	Fair/Poor	Medium	Medium	Medium		Tree previously removed	
9	Platanus orientalis 'Digitata'	Cut Leaf Plane Tree	0.43	0.39	2.3	4.7	16	6		Tree previously removed	Mature	Fair/Poor	Fair/Poor	Medium	Medium	Medium		Tree previously removed	
10	Ulmus parvifolia	Chinese Elm	0.23	0.21	1.8	2.5	12	5	100%	Kids park landscaping	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
11	Ulmus parvifolia	Chinese Elm	0.28	0.25	1.9	3.0	12	6	100%	Kids park landscaping	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
12	Ulmus parvifolia	Chinese Elm	0.24	0.22	1.8	2.6	12	6	100%	Kids park landscaping	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
13	Ulmus parvifolia	Chinese Elm	0.2	0.18	1.7	2.2	12	5	100%	Kids park landscaping	Mature	Fair/Poor	Fair/Poor	Medium	Medium	Medium	2a		Remove
14	Ulmus parvifolia	Chinese Elm	0.22	0.2	1.8	2.4	14	6	100%	Kids park landscaping	Mature	Fair	Fair	Medium	Medium	Medium	2a		Remove
15	Ulmus parvifolia	Chinese Elm	0.26	0.24	1.9	2.9	12	6	100%	Kids park landscaping	Mature	Fair	Fair	Medium	Medium	Medium	2a		Remove
16	Ulmus parvifolia	Chinese Elm	0.34	0.31	2.1	3.7	14	8	100%	Kids park landscaping	Mature	Fair	Fair	Medium	Medium	Medium	2a		Remove
17	Corymbia citriodora	Lemon Scented Gum	0.45	0.42	2.4	5.0	20	8	100%	Kids park landscaping	Mature	Fair	Fair	Medium	Medium	Medium	2a		Remove
18	Corymbia citriodora	Lemon Scented Gum	0.3	0.27	2.0	3.2	20	6	100%	Kids park landscaping	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a	Deadwood to 50mm observed.	Remove
19	Corymbia citriodora	Lemon Scented Gum	0.32	0.29	2.1	3.5	20	8	100%	Kids park landscaping	Mature	Fair	Fair	Medium	Medium	Medium	2a		Remove
20	Corymbia citriodora	Lemon Scented Gum	0.16	0.14	1.5	1.7	18	6	100%	Kids park landscaping	Semi Mature	e Fair/Poor	Poor	Low	Low	Low	2a		Remove
21	Corymbia citriodora	Lemon Scented Gum	0.28	0.24	1.9	2.9	20	6	100%	Kids park landscaping	Mature	Fair/Poor	Fair/Poor	Medium	Medium	Medium	2a		Remove
22	Corymbia citriodora	Lemon Scented Gum	0.35	0.32	2.1	3.8	20	7	100%	Kids park landscaping	Mature	Fair	Fair	Medium	Medium	Medium	2a		Remove
23	Corymbia citriodora	Lemon Scented Gum	4	0.35	5.9	4.2	20	10	100%	Kids park landscaping	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
24	Corymbia citriodora	Lemon Scented Gum	0.33	0.3	2.1	3.6	18	8	100%	Kids park landscaping	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
25	Corymbia citriodora	Lemon Scented Gum	0.25	0.22	1.8	2.6	16	6	100%	Kids park landscaping	Mature	Fair	Fair	Medium	Medium	Medium	2a		Remove

									1	Appendix 1 Tree Data So	chedule P2	2							
No	Genus-Species	Common name	DAB metres (radius)	DBH metres (radius)	SRZ (radius)	TPZ (radius)	Height	Canopy Spread (Radius)	TPZ Incursion		Age	Health	Condition	Useful Life Expectancy	Landscape significance	Retention value	Sule	Observations/Comments	Retain/Remove
			Above buttress	Dia at Breast Height	Metres	Metres	Metres	Metres	%	Tree Impact	Young Semi- mature Mature Over-mature	Good Fair Fair/Poor Poor Failed	Good Fair Fair/Poor Poor Failed	High Medium Low	High Medium Low	High Medium Low	Safe Useful Life Expectancy		
26	Corymbia citriodora	Lemon Scented Gum	0.24	0.2	1.8	2.4	16	5	100%	Kids park landscaping	Semi Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
27	Corymbia citriodora	Lemon Scented Gum	0.21	0.19	1.7	2.3	15	4	100%	Kids park landscaping	Semi Mature	Fair/Poor	Fair/Poor	Medium	Low	Low	2a	Dieback observed in canopy.	Remove
28	Corymbia citriodora	Lemon Scented Gum	0.3	0.27	2.0	3.2	20	7	100%	Kids park landscaping	Mature	Fair	Fair	Medium	Medium	Medium	2a		Remove
29	Corymbia citriodora	Lemon Scented Gum	0.25	0.22	1.8	2.6	20	6	100%	Kids park landscaping	Mature	Fair	Fair	Medium	Medium	Medium	2a		Remove
30	Corymbia citriodora	Lemon Scented Gum	0.34	0.31	2.1	3.7	23	8	100%	Kids park landscaping	Mature	Fair	Fair	Medium	Medium	Medium	2a		Remove
31	Corymbia citriodora	Lemon Scented Gum	0.4	0.37	2.3	4.4	20	10	100%	Kids park landscaping	Mature	Fair	Fair	Medium	Medium	Medium	2a		Remove
32	Corymbia citriodora	Lemon Scented Gum	0.36	0.33	2.2	4.0	24	10	100%	Kids park landscaping	Mature	Fair	Fair	Medium	Medium	Medium	2a		Remove
33	Corymbia citriodora	Lemon Scented Gum	0.34	0.31	2.1	3.7	18	12	100%	Kids park landscaping	Mature	Fair/Poor	Fair/Poor	Medium	Medium	Medium	2a		Remove
34	Corymbia citriodora	Lemon Scented Gum	0.36	0.33	2.2	4.0	22	8	100%	Kids park landscaping	Mature	Fair	Fair	Medium	Medium	Medium	2a		Remove
35	Corymbia citriodora	Lemon Scented Gum	0.33	0.3	2.1	3.6	20	8	100%	Kids park landscaping	Mature	Fair	Fair	Medium	Medium	Medium	2a		Remove
36	Corymbia citriodora	Lemon Scented Gum	0.4	0.36	2.3	4.3	24	10	100%	Kids park landscaping	Mature	Fair	Fair	Medium	Medium	Medium	2a		Remove
37	Corymbia citriodora	Lemon Scented Gum	0.33	0.3	2.1	3.6	16	8	100%	Kids park landscaping	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
38	Acer palmatum	Japanese Elm	0.26	0.24	1.9	2.9	5	3	nil	Retain	Mature	Fair/Poor	Fair/Poor	Medium	Low	Low	2c		Retain
39	Acer palmatum	Japanese Elm	0.14	0.1	1.4	1.2	3	2	nil	Retain	Mature	Poor	Poor	Low	Low	Low	2c		Retain
40	Eleocarpus reticulatus	Blueberry Ash	0.27	0.24	1.9	2.9	14	3	10%	PSB Development footprint	Mature	Fair	Fair	Medium	Low	Low	2a		Remove
41	Elaeocarpus reticulatus	Blueberry Ash	0.26	0.24	1.9	2.9	16	3	33%	Retain	Mature	Poor	Fair/Poor	Medium	Low	Low	2a		Retain
42	Elaeocarpus reticulatus	Blueberry Ash	0.24	0.22	1.8	2.6	14	3	23%	Retain	Mature	Poor	Fair/Poor	Medium	Low	Low	2a		Retain
43	Elaeocarpus reticulatus	Blueberry Ash	0.24	0.22	1.8	2.6	12	4	100%	PSB Development footprint	Mature	Fair/Poor	Fair	Medium	Low	Low	2a		Remove
44	Elaeocarpus reticulatus	Blueberry Ash	0.2	0.17	1.7	2.0	10	3	100%	PSB Development footprint	Mature	Fair	Fair	Medium	Low	Low	2a		Remove
45	Syzygium leauhmanii	Riberry	0.12	0.1	1.4	1.2	8	2	100%	PSB Development footprint	Semi Mature	Fair/Poor	Fair/Poor	Medium	Low	Low	2a		Remove
46	Syzygium leauhmannii	Riberry	0.2	0.16	1.7	1.9	10	4	100%	PSB Development footprint	Mature	Fair	Fair	Medium	Low	Low	2a		Remove
47	Syzygium luehmannii	Riberry	0.16	0.13	1.5	1.6	10	3	100%	PSB Development footprint	Mature	Fair/Poor	Fair/Poor	Medium	Low	Low	2a		Remove
48	Syzygium luehmannii	Riberry	0.14	0.11	1.4	1.3	10	2	100%	PSB Development footprint	Semi Mature	Fair	Fair/Poor	Medium	Low	Low	2a		Remove
49	Syzygium leuhmannii	Riberry	0.2	0.18	1.7	2.2	14	2	100%	PSB Development footprint	Mature	Fair	Fair/Poor	Medium	Low	Low	2a		Remove
50	Elaeocarpus reticulatus	Blueberry Ash	0.18	0.16	1.6	1.9	10	4	100%	PSB Development footprint	Mature	Fair/Poor	Fair/Poor	Medium	Low	Low	2a		Remove

									1	Appendix 1 Tree Data So	chedule P3	3							
No	Genus-Species	Common name	DAB metres (radius)	DBH metres (radius)	SRZ (radius)	TPZ (radius)	Height	Canopy Spread (Radius)	TPZ Incursion		Age	Health	Condition	Useful Life Expectancy	Landscape significance	Retention value	Sule	Observations/Comments	Retain/Remove
			Above buttress	Dia at Breast Height	Metres	Metres	Metres	Metres	%	Tree Impact	Young Semi- mature Mature Over-mature	Good Fair Fair/Poor Poor Failed	Good Fair Fair/Poor Poor Failed	High Medium Low	High Medium Low	High Medium Low	Safe Useful Life Expectancy		
51	Elaeocarpus reticulatus	Blueberry Ash	0.21	0.19	1.7	2.3	14	3	100%	PSB Development footprint	Mature	Fair	Fair/Poor	Medium	Low	Low	2a		Remove
52	Elaeocarpus reticulatus	Blueberry Ash	0.23	0.2	1.8	2.4	14	3	100%	PSB Development footprint	Mature	Fair	Fair/Poor	Medium	Low	Low	2a		Remove
53	Syzygium luehmannii	Riberry	0.18	0.16	1.6	1.9	10	4	100%	PSB Development footprint	Mature	Fair	Fair/Poor	Medium	Low	Low	2a		Remove
54	Syzygium luehmannii	Riberry	0.2	0.17	1.7	2.0	12	3	100%	PSB Development footprint	Mature	Fair	Fair/Poor	Medium	Low	Low	2a		Remove
55	Syzygium luehmannii	Riberry	0.2	0.18	1.7	2.2	10	2	100%	PSB Development footprint	Mature	Fair	Fair/Poor	Medium	Low	Low	2a		Remove
56	Syzygium luehmannii	Riberry	0.19	0.17	1.6	2.0	12	3	100%	PSB Development footprint	Mature	Fair	Fair/Poor	Medium	Low	Low	2a		Remove
57	Syzygium luehmannii	Riberry	0.21	0.19	1.7	2.3	14	3	100%	PSB Development footprint	Mature	Fair	Fair/Poor	Medium	Low	Low	2a		Remove
58	Elaeocarpus reticulartis	Blueberry Ash	0.18	0.14	1.6	1.7	12	4	100%	PSB Development footprint	Mature	Fair	Fair/Poor	Medium	Low	Low	2a		Remove
59	Elaeocarpus reticulatis	Blueberry Ash	0.1	0.08	1.3	1.0	3	2	100%	PSB Development footprint	Semi Mature	Fair/Poor	Fair/Poor	Medium	Low	Low	2a		Remove
60	Robinia pseudoacacia	Black Locust	0.25	0.32	1.8	3.8	18	6	nil	Retain	Mature	Fair/Poor	Fair/Poor	Medium	Low	Low	2a		Retain
61	Robinia pseudoacacia	Black Locust	0.35	0.31	2.1	3.7	18	5	nil	Retain	Mature	Fair/Poor	Fair/Poor	Medium	Low	Low	2a		Retain
62	Elaeocarpus reticulatus	Blueberry Ash	0.12	0.1	1.4	1.2	4	2	100%	PSB Development footprint	Semi Mature	Fair/Poor	Fair/Poor	Medium	Low	Low	2b		Remove
63	Elaeocarpus reticulatus	Blueberry Ash	0.12	0.1	1.4	1.2	4	2	100%	PSB Development footprint	Semi Mature	Fair/Poor	Fair/Poor	Medium	Low	Low	2b		Remove
64	Elaeocarpus reticulatus	Blueberry Ash	0.12	0.1	1.4	1.2	4	2	100%	PSB Development footprint	Semi Mature	Fair/Poor	Fair/Poor	Medium	Low	Low	2b		Remove
65	Elaeocarpus reticulatus	Blueberry Ash	0.12	0.1	1.4	1.2	4	2	100%	PSB Development footprint	Semi Mature	Fair/Poor	Fair/Poor	Medium	Low	Low	2b		Remove
66	Elaeocarpus reticulatus	Blueberry Ash	0.12	0.1	1.4	1.2	4	2	100%	PSB Development footprint	Semi Mature	Fair/Poor	Fair/Poor	Medium	Low	Low	2b		Remove
67	Elaeocarpus reticulatus	Blueberry Ash	0.12	0.1	1.4	1.2	4	2	100%	PSB Development footprint	Semi Mature	Fair/Poor	Fair/Poor	Medium	Low	Low	2b		Remove
68	Elaeocarpus reticulatus	Blueberry Ash	0.12	0.1	1.4	1.2	4	2	100%	PSB Development footprint	Semi Mature	Fair/Poor	Fair/Poor	Medium	Low	Low	2b		Remove
69	Sapium sebiforum	Chinese Tallowood	0.45	0.39	2.4	4.7	16	7	100%	PSB Development footprint	Mature	Fair/Poor	Fair/Poor	Medium	Low	Low	2b		Remove
70	Sapium sebiforum	Chinese Tallowood	0.43	0.38	2.3	4.6	15	6	100%	PSB Development footprint	Mature	Fair/Poor	Fair/Poor	Medium	Low	Low	2b		Remove
71	Corymbia gummifera	Bloodwood	0.4	0.3	2.3	3.6	20	8	100%	PSB Development footprint	Mature	Fair/Poor	Fair/Poor	Medium	Medium	Medium	2a		Remove
72	Corymbia maculata	Spotted Gum	0.1	0.08	1.3	1.0	6	1	100%	PSB Development footprint	Young	Fair/Poor	Poor	Low	Low	Low	2b		Remove
73	Corymbia maculata	Spotted Gum	0.19	0.16	1.6	1.9	18	4	100%	PSB Development footprint	Semi Mature	Fair	Fair/Poor	Medium	Low	Low	2b		Remove
74	Corymbia gummifera	Bloodwood	0.1	0.07	1.3	0.8	5	1	100%	PSB Development footprint	Young	Fair/Poor	Fair/Poor	Low	Low	Low	2b		Remove
75	Eucalyptus sp		0.59	0.51	2.7	6.1	16	8	100%	PSB Development footprint	Mature	Fair/Poor	Fair/Poor	Medium	Low	Low	2b		Remove

									4	Appendix 1 Tree Data So	chedule P4	Ļ							
No	Genus-Species	Common name	DAB metres (radius)	DBH metres (radius)	SRZ (radius)	TPZ (radius)	Height	Canopy Spread (Radius)	TPZ Incursion		Age	Health	Condition	Useful Life Expectancy	Landscape significance	Retention value	Sule	Observations/Comments	Retain/Remove
			Above buttress	Dia at Breast Height	Metres	Metres	Metres	Metres	%	Tree Impact	Young Semi- mature Mature Over-mature	Good Fair Fair/Poor Poor Failed	Good Fair Fair/Poor Poor Failed	High Medium Low	High Medium Low	High Medium Low	Safe Useful Life Expectancy		
76	Corymbia maculata	Spotted Gum	0.45	0.4	2.4	4.8	20	8	100%	PSB Development footprint	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
77	Corymbia maculata	Spotted Gum	0.3	0.26	2.0	3.1	18	8	100%	PSB Development footprint	Mature	Fair	Fair/Poor	Medium	Low	Low	2b		Remove
78	Corymbia maculata	Spotted Gum	0.38	0.35	2.2	4.2	20	8	100%	PSB Development footprint	Mature	Fair	Fair	Medium	Medium	Medium	2a		Remove
79	Corymbia maculata	Spotted Gum	0.34	0.31	2.1	3.7	18	6	100%	PSB Development footprint	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
80	Corymbia maculata	Spotted Gum	0.34	0.31	2.1	3.7	20	6	100%	PSB Development footprint	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
81	Corymbia maculata	Spotted Gum	0.33	0.31	2.1	3.7	20	8	100%	PSB Development footprint	Mature	Fair	Fair	Medium	Medium	Medium	2a		Remove
82	Sapium sebiforum	Chinese Tallowood	0.35	0.32	2.1	3.8	12	4	100%	PSB Development footprint	Mature	Fair/Poor	Fair/Poor	Medium	Low	Low	2a		Remove
83	Sapium sebiforum	Chinese Tallowood	0.24	0.18	1.8	2.2	12	4	100%	PSB Development footprint	Mature	Fair/Poor	Fair/Poor	Medium	Low	Low	2a		Remove
84	Sapium sebiforum	Chinese Tallowood	0.26	0.23	1.9	2.8	12	4	100%	PSB Development footprint	Mature	Fair/Poor	Fair/Poor	Medium	Low	Low	2a		Remove
85	Sapium sebiforum	Chinese Tallowood	0.38	0.25	2.2	3.0	10	4	100%	PSB Development footprint	Mature	Fair/Poor	Fair/Poor	Medium	Low	Low	2a		Remove
86	corymbia maculata	Spotted Gum	0.34	0.28	2.1	3.4	18	6	100%	PSB Development footprint	Mature	Fair	Fair	Medium	Medium	Medium	2a		Remove
87	Corymbia maculata	Spotted Gum	0.4	0.37	2.3	4.4	20	8	100%	PSB Development footprint	Mature	Fair	Poor	Medium	Low	Low	2a	Basal wound and decay observed. Previous structural root damage occured during footpath construction.	Remove
88	Corymbia maculata	Spotted Gum	0.39	0.35	2.2	4.2	20	6	100%	PSB Development footprint	Mature	Fair	Fair	Medium	Medium	Medium	2a		Remove
89	Corymbia maculata	Spotted Gum	0.55	0.48	2.6	5.8	20	10	100%	PSB Development footprint	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
90	Magnolia grandiflora 'Exmouth'	Bull Bay Magnolia	0.12	0.1	1.4	1.2	4	1	100%	PSB Development footprint	Young	Poor	Poor	Low	Low	Low	2b		Remove
91	Casuarina glauca	Swamp She-oak	0.33	0.3	2.1	3.6	14	4	100%	PSB Development footprint (Hardstand)	Mature	Fair	Fair/Poor	Medium	Low	Low	2b		Remove
92	Casuarina glauca	Swamp She-oak	0.33	0.3	2.1	3.6	14	4	100%	PSB Development footprint (Hardstand)	Mature	Fair	Fair/Poor	Medium	Low	Low	2b		Remove
93	Melaleuca nodosa	Prickly Leafed Papebark	0.16	0.14	1.5	1.7	4	2	100%	PSB Development footprint	Mature	Fair/Poor	Fair/Poor	Low	Low	Low	2b		Remove
94	Eucalyptus saligna	Sydney Blue Gum	0.2	0.18	1.7	2.2	15	5	nil	Retain	Semi Mature	Fair/Poor	Poor	Low	Low	Low	2b		Retain
95	Eucalyptus saligna	Sydney Blue Gum	0.44	0.4	2.3	4.8	24	8	11%	PSB Development footprint	Mature	Poor	Fair	Medium	Medium	Medium	2a		Retain
96	Eucalyptus saligna	Sydney Blue Gum	0.58	0.52	2.6	6.2	18	10	50%	PSB Development footprint	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a	Basal wound with callus wood observed.	Remove
97	Magnolia grandiflora 'Exmouth'	Bull Bay Magnolia	0.13	0.11	1.4	1.3	5	2	nil	Retain	Semi Mature	Fair/Poor	Fair/Poor	Medium	Low	Low	2b		Retain
98	Magnolia grandiflora 'Exmouth'	Bull Bay Magnolia	0.19	0.16	1.6	1.9	8	2	nil	Retain	Semi Mature	Fair/Poor	Fair/Poor	Medium	Low	Low	2b		Retain
99	Casuarina glauca	Swamp She-oak	0.5	0.44	2.5	5.3	22	5	30%	PSB Ashphalt	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2b		Remove
100	Casuarina glauca	Swamp She-oak	0.44	0.38	2.3	4.6	22	5	23%	PSB Ashphalt	Mature	Fair/Poor	Fair/Poor	Medium	Medium	Medium	2b		Remove

									1	Appendix 1 Tree Data Sc	hedule P5	5							
No	Genus-Species	Common name	DAB metres (radius)	DBH metres (radius)	SRZ (radius)	TPZ (radius)	Height	Canopy Spread (Radius)	TPZ Incursion		Age	Health	Condition	Useful Life Expectancy	Landscape significance	Retention value	Sule	Observations/Comments	Retain/Remove
			Above buttress	Dia at Breast Height	Metres	Metres	Metres	Metres	%	Tree Impact	Young Semi- mature Mature Over-mature	Good Fair Fair/Poor Poor Failed	Good Fair Fair/Poor Poor Failed	High Medium Low	High Medium Low	High Medium Low	Safe Useful Life Expectancy		
101	Callistemon viminalis	Bottle Brush	0.2	0.18	1.7	2.2	6	4	15%	PSB Ashphalt	Mature	Fair/Poor	Fair/Poor	Low	Low	Low	2b		Retain
102	Grevillea robusta	Silky Oak	0.5	0.45	2.5	5.4	18	4	100%	PSB Ashphalt	Mature	Fair	Poor	Medium	Low	Low	2c	Acute trunk inclusion from base.	Remove
103	Casuarina glauca	Swamp She-oak	0.13	0.11	1.4	1.3	6	2	nil	Retain	Young	Fair	Fair/Poor	Medium	Low	Low	2b		Retain
104	Casuarina glauca	Swamp She-oak	0.55	0.48	2.6	5.8	20	4	14%	PSB pipeline	Mature	Fair/Poor	Fair/Poor	Medium	Medium	Medium	2a		Retain
105	Casuarina glauca	Swamp She-oak	0.56	0.47	2.6	5.6	22	6	11%	PSB pipeline	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Retain
106	Casuarina glauca	Swamp She-oak	0.33	0.26	2.1	3.1	14	5	nil	retained	Mature	Fair	Poor	Medium	Low	Low	2b		Retain
107	Casuarina glauca	Swamp She-oak	0.52	0.46	2.5	5.5	20	8	33%	PSB pipeline	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a	Multi-trunked inclusion from 1 metre, monitor trunk attachment.	Retain
108	Casuarina glauca	Swamp She-oak	0.33	0.29	2.1	3.5	16	6	nil	Retain	Mature	Fair/Poor	Poor	Medium	Low	Low	2b		Retain
109	Casuarina glauca	Swamp She-oak	0.33	0.29	2.1	3.5	18	6	nil	Retain	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Retain
110	Casuarina glauca	Swamp She-oak	0.37	0.33	2.2	4.0	16	6	nil	Retain	Mature	Fair/Poor	Fair/Poor	Medium	Low	Low	2b		Retain
111	Casuarina glauca	Swamp She-oak	0.38	0.31	2.2	3.7	16	8	nil	Retain	Mature	Fair/Poor	Poor	Medium	Low	Low	2b	Tree on a 15 degree lean over road.	Retain
112	Eucalyptus saligna	Sydney Blue Gum	0.4	0.37	2.3	4.4	20	6	nil	Retain	Mature	Fair	Fair	Medium	Medium	Medium	2a		Retain
113	Casuarina glauca	Swamp She-oak	0.16	0.14	1.5	1.7	12	4	nil	Retain	Young	Fair	Fair/Poor	Medium	Low	Low	2b		Retain
114	Casuarina glauca	Swamp She-oak	0.24	0.2	1.8	2.4	18	5	nil	Retain	Mature	Fair/Poor	Fair/Poor	Medium	Low	Low	2b		Retain
115	Casuarina glauca	Swamp She-oak	0.3	0.23	2.0	2.8	18	8	nil	Retain	Mature	Fair	Fair/Poor	Medium	Low	Low	2b		Retain
116	Casuarina glauca	Swamp She-oak	0.28	0.24	1.9	2.9	16	8	nil	Retain	Mature	Fair/Poor	Fair/Poor	Medium	Low	Low	2b		Retain
117	Callistemon viminalis	Bottle Brush	0.13	0.12	1.4	1.4	6	3	nil	Retain	Mature	Fair	Fair/Poor	Medium	Low	Low	2b		Retain
118	Corymbia maculata	Spotted Gum	0.48	0.41	2.4	4.9	22	6	nil	Retain	Mature	Fair	Fair	Medium	Medium	Medium	2a		Retain
119	Corymbia maculata	Spotted Gum	0.35	0.31	2.1	3.7	22	6	nil	Retain	Mature	Fair	Fair	Medium	Medium	Medium	2a		Retain
120	Corymbia maculata	Spotted Gum	0.24	0.2	1.8	2.4	16	5	nil	Retain	Semi Mature	Fair	Fair/Poor	Medium	Low	Low	2b		Retain
121	Corymbia maculata	Spotted Gum	0.34	0.29	2.1	3.5	20	6	nil	Retain	Mature	Fair	Fair	Medium	Medium	Medium	2a		Retain
122	Corymbia maculata	Spotted Gum	0.35	0.3	2.1	3.6	16	7	100%	PSB Ashphalt	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
123	Corymbia maculata	Spotted Gum	0.33	0.29	2.1	3.5	16	6	100%	PSB Development footprint	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
124	Corymbia maculata	Spotted Gum	0.22	0.19	1.8	2.3	14	4	100%	PSB Development footprint	Semi Mature	Fair/Poor	Fair/Poor	Medium	Low	Low	2b		Remove
125	Melaleuca nodosa	Prickly Leafed Papebark	0.14	0.12	1.4	1.4	6	1	100%	PSB Development footprint	Mature	Poor	Poor	Low	Low	Low	2b		Remove

									4	Appendix 1 Tree Data So	chedule P6	5							
No	Genus-Species	Common name	DAB metres (radius)	DBH metres (radius)	SRZ (radius)	TPZ (radius)	Height	Canopy Spread (Radius)	TPZ Incursion		Age	Health	Condition	Useful Life Expectancy	Landscape significance	Retention value	Sule	Observations/Comments	Retain/Remove
			Above buttress	Dia at Breast Height	Metres	Metres	Metres	Metres	%	Tree Impact	Young Semi- mature Mature Over-mature	Good Fair Fair/Poor Poor Failed	Good Fair Fair/Poor Poor Failed	High Medium Low	High Medium Low	High Medium Low	Safe Useful Life Expectancy		
126	Melaleuca nodosa	Prickly Leafed Papebark	0.12	0.1	1.4	1.2	6	1	100%	PSB pipeline	Mature	Poor	Poor	Low	Low	Low	3a		Remove
127	Melaleuca nodosa	Prickly Leafed Papebark	0.16	0.15	1.5	1.8	5	3	100%	PSB pipeline	Mature	Poor	Poor	Low	Low	Low	3a		Remove
128	Melaleuca nodosa	Prickly Leafed Papebark	0.21	0.19	1.7	2.3	6	2	100%	PSB pipeline	Mature	Fair/Poor	Poor	Low	Low	Low	3a		Remove
129	Melaleuca nodosa	Prickly Leafed Papebark	0.18	0.15	1.6	1.8	5	3	100%	PSB pipeline	Mature	Poor	Poor	Low	Low	Low	3a	Multi-trunked tree from base.	Remove
130	Melaleuca nodosa	Prickly Leafed Papebark	0.15	0.13	1.5	1.6	5	3	100%	PSB Development footprint	Mature	Poor	Poor	Low	Low	Low	3a		Remove
131	Syncarpia glommulifera	Turpentine	0.44	0.4	2.3	4.8	10	3	8%	PSB Development footprint	Semi Mature	Fair	Fair/Poor	Medium	Low	Low	2b	Multi-trunked from base.	Retain
132	Melaleuca bracteata	Black Tea-Tree	0.18	0.16	1.6	1.9	10	4	nil	Retain	Mature	Fair/Poor	Fair/Poor	Medium	Low	Low	3a		Retain
133	Corymbia eximia	Yellow Bloodwood	0.18	0.15	1.6	1.8	8	2	nil	Retain	Semi Mature	Fair/Poor	Poor	Medium	Low	Low	2b		Retain
134	Melia azederach	White Cedar	0.4	0.35	2.3	4.2	16	8	nil	Retain	Mature	Fair/Poor	Fair/Poor	Medium	Low	Low	2b		Retain
135	Melia azederach	White Cedar	0.55	0.49	2.6	5.9	16	8	nil	Retain	Mature	Fair/Poor	Fair/Poor	Medium	Low	Low	2b	Multi-trunked inclusion at 1 metre.	Retain
136	Melaleuca nodosa	Prickly Leafed Papebark	0.18	0.15	1.6	1.8	5	2	nil	Retain	Mature	Poor	Poor	Low	Low	Low	3a		Retain
137	Eucalyptus saligna	Sydney Blue Gum	0.22	0.19	1.8	2.3	15	4	nil	Retain	Semi Mature	Fair	Poor	Medium	Low	Low	2a		Retain
138	Eucalyptus saligna	Sydney Blue Gum	0.63	0.57	2.7	6.8	25	10	nil	Retain	Mature	Fair	Fair	Medium	Medium	Medium	2a		Retain
139	Eucalyptus saligna	Sydney Blue Gum	0.52	0.46	2.5	5.5	24	8	nil	Retain	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Retain
140	Eucalyptus saligna	Sydney Blue Gum	0.45	0.39	2.4	4.7	24	10	nil	Retain	Mature	Fair	Fair	Medium	Medium	Medium	2a		Retain
141	Eucalyptus saligna	Sydney Blue Gum	0.5	0.42	2.5	5.0	25	10	nil	Retain	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Retain
142	Eucalyptus saligna	Sydney Blue Gum	0.51	0.42	2.5	5.0	25	12	nil	Retain	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a	Deadwood to 50mm observed over garden bed observed.	Retain
143	Eucalyptus saligna	Sydney Blue Gum	0.73	0.63	2.9	7.6	30	12	nil	Retain	Mature	Fair	Fair	Medium	Medium	Medium	2a		Retain
144	Corymbia maculata	Spotted Gum	0.35	0.29	2.1	3.5	10	5	nil	Retain	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Retain
145	Corymbia maculata	Spotted Gum	0.33	0.27	2.1	3.2	22	6	nil	Retain	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Retain
146	Corymbia maculata	Spotted Gum	0.34	0.28	2.1	3.4	18	6	nil	Retain	Mature	Fair/Poor	Poor	Medium	Low	Low	2b		Retain
147	Corymbia maculata	Spotted Gum	0.58	0.46	2.6	5.5	24	10	nil	Retain	Mature	Fair	Fair	Medium	Medium	Medium	2a		Retain
148	Corymbia maculata	Spotted Gum	0.28	0.24	1.9	2.9	18	4	nil	Retain	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Retain
149	Casuarina glauca	Swamp She-oak	0.28	0.21	1.9	2.5	16	4	nil	Retain	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Retain
150	Xanthostemon chrysanthus	Golden Penda	0.15	0.13	1.5	1.6	8	3	nil	Retain	Mature	Fair	Fair/Poor	Medium	Low	Low	2b		Retain

									1	Appendix 1 Tree Data Sc	chedule P	7							
No	Genus-Species	Common name	DAB metres (radius)	DBH metres (radius)	SRZ (radius)	TPZ (radius)	Height	Canopy Spread (Radius)	TPZ Incursion		Age	Health	Condition	Useful Life Expectancy	Landscape significance	Retention value	Sule	Observations/Comments	Retain/Remove
			Above buttress	Dia at Breast Height	Metres	Metres	Metres	Metres	%	Tree Impact	Young Semi- mature Mature Over-mature	Good Fair Fair/Poor Poor Failed	Good Fair Fair/Poor Poor Failed	High Medium Low	High Medium Low	High Medium Low	Safe Useful Life Expectancy		
151	Melaleuca nodosa	Prickly Leafed Papebark	0.15	0.12	1.5	1.4	6	2	nil	retain	Mature	Poor	Poor	Low	Low	Low	3a	Multi-trunked Tree	Retain
152	Melaleuca nodosa	Prickly Leafed Papebark	0.15	0.12	1.5	1.4	4	2	nil	retain	Mature	Poor	Poor	Low	Low	Low	3a	Multi-trunked Tree	Retain
153	Melaleuca nodosa	Prickly Leafed Papebark	0.15	0.12	1.5	1.4	5	2	nil	retain	Mature	Fair/Poor	Fair/Poor	Low	Low	Low	3a		Retain
154	Melaleuca nodosa	Prickly Leafed Papebark	0.16	0.13	1.5	1.6	5	2	nil	retain	Mature	Fair/Poor	Fair/Poor	Low	Low	Low	3a		Retain
155	Melaleuca nodosa	Prickly Leafed Papebark	0.15	0.12	1.5	1.4	6	2	nil	retain	Mature	Fair/Poor	Fair/Poor	Low	Low	Low	3a		Retain
156	Corymbia eximia	Yellow Bloodwood	0.2	0.18	1.7	2.2	12	2	nil	retain	Semi Mature	e Fair/Poor	Fair/Poor	Medium	Low	Low	2b	Trees growth obstructed by nearby Tree 157.	Retain
157	Eucalyptus saligna	Sydney Blue Gum	0.35	0.31	2.1	3.7	14	5	nil	retain	Semi Mature	e Fair	Fair/Poor	Medium	Medium	Medium	2a		Retain
158	Eucalyptus saligna	Sydney Blue Gum	0.41	0.36	2.3	4.3	16	6	nil	retain	Mature	Fair/Poor	Fair/Poor	Medium	Medium	Medium	2a		Retain
159	Corymbia maculata	Spotted Gum	0.39	0.33	2.2	4.0	16	4	100%	MSCP development footprint	Mature	Fair	Fair/Poor	Medium	Low	Low	2a	Multi-trunked at 6 metres.	Remove
160	Corymbia maculata	Spotted Gum	0.29	0.23	2.0	2.8	18	4	100%	MSCP development footprint	Semi Mature	e Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
161	Corymbia maculata	Spotted Gum	0.3	0.25	2.0	3.0	18	6	100%	MSCP development footprint	Mature	Fair	Fair	Medium	Medium	Medium	2a		Remove
162	Corymbia maculata	Spotted Gum	0.32	0.29	2.1	3.5	20	6	100%	MSCP development footprint	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
163	Corymbia maculata	Spotted Gum	0.36	0.33	2.2	4.0	18	6	100%	MSCP development footprint	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
164	Corymbia maculata	Spotted Gum	0.45	0.41	2.4	4.9	20	6	nil	retain	Mature	Fair		Medium	Medium	Medium	2a		Retain
165	Melaleuca nodosa	Prickly Leafed Papebark	0.19	0.15	1.6	1.8	6	2	nil	retain	Mature	Fair/Poor	Fair/Poor	Low	Low	Low	3a	Multi-trunked	Retain
166	Melaleuca nodosa	Prickly Leafed Papebark	0.15	0.12	1.5	1.4	6	2	nil	retain	Mature	Fair/Poor	Fair/Poor	Low	Low	Low	3a	Multi-trunked	Retain
167	Corymbia maculata	Spotted Gum	0.38	0.33	2.2	4.0	18	6	nil	retain	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Retain
168	Corymbia maculata	Spotted Gum	0.4	0.35	2.3	4.2	24	8	nil	retain	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Retain
169	Callistemon viminalis	Bottle Brush	0.12	0.09	1.4	1.1	6	2	nil	retain	Mature	Poor	Poor	Low	Low	Low	3a		Retain
170	Corymbia maculata	Spotted Gum	0.6	0.55	2.7	6.6	24	10	nil	retain	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Retain
171	Casuarina glauca	Swamp She-oak	0.35	0.32	2.1	3.8	14	6	nil	retain	Mature	Fair/Poor	Poor	Medium	Low	Low	2b	Multi-trunked inclusion from base.	Retain
172	Jacaranda mimosifolia	Jacaranda	0.25	0.2	1.8	2.4	8	6	100%	MSCP Landscaping	Mature	Fair/Poor	Fair/Poor	Medium	Medium	Medium	2a		Remove
173	Jacaranda mimosifolia	Jacaranda	0.18	0.16	1.6	1.9	6	2	100%	MSCP Landscaping	Mature	Fair/Poor	Fair/Poor	Medium	Low	Low	2b		Remove
174	Jacaranda mimosifolia	Jacaranda	0.3	0.28	2.0	3.4	10	4	100%	MSCP Landscaping	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
175	Jacaranda mimosifolia	Jacaranda	0.2	0.18	1.7	2.2	5	2	100%	MSCP development footprint	Mature	Fair/Poor	Fair/Poor	Medium	Low	Low	2b		Remove

										Appendix 1 Tree Data So	chedule P8	3							
No	Genus-Species	Common name	DAB metres (radius)	DBH metres (radius)	SRZ (radius)	TPZ (radius)	Height	Canopy Spread (Radius)	TPZ Incursion		Age	Health	Condition	Useful Life Expectancy	Landscape significance	Retention value	Sule	Observations/Comments	Retain/Remove
			Above buttress	Dia at Breast Height	Metres	Metres	Metres	Metres	%	Tree Impact	Young Semi- mature Mature Over-mature	Good Fair Fair/Poor Poor Failed	Good Fair Fair/Poor Poor Failed	High Medium Low	High Medium Low	High Medium Low	Safe Useful Life Expectancy		
176	Jacaranda mimosifolia	Jacaranda	0.21	0.19	1.7	2.3	6	4	100%	MSCP development footprint	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
177	Jacaranda mimosifolia	Jacaranda	0.19	0.16	1.6	1.9	6	4	100%	MSCP development footprint	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
178	Jacaranda mimosifolia	Jacaranda	0.22	0.2	1.8	2.4	8	4	100%	MSCP development footprint	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
179	Jacaranda mimosifolia	Jacaranda	0.22	0.2	1.8	2.4	6	3	100%	MSCP Landscaping	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
180	Jacaranda mimosifolia	Jacaranda	0.38	0.33	2.2	4.0	8	5	100%	MSCP development footprint	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
181	Jacaranda mimosifolia	Jacaranda	0.16	0.14	1.5	1.7	8	4	100%	MSCP development footprint	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
182	Jacaranda mimosifolia	Jacaranda	0.17	0.14	1.6	1.7	8	4	100%	MSCP development footprint	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
183	Jacaranda mimosifolia	Jacaranda	0.18	0.15	1.6	1.8	6	4	100%	MSCP development footprint	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
184	Jacaranda mimosifolia	Jacaranda	0.14	0.12	1.4	1.4	6	2	100%	MSCP development footprint	Semi Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
185	Jacaranda mimosifolia	Jacaranda	0.34	0.31	2.1	3.7	12	6	100%	MSCP development footprint	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
186	Ulmus parvifolia	Chinese Elm	0.52	0.48	2.5	5.8	16	8	100%	MSCP development footprint	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
187	Jacaranda mimosifolia	Jacaranda	0.22	0.2	1.8	2.4	12	4	100%	MSCP development footprint	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
188	Jacaranda mimosifolia	Jacaranda	0.21	0.19	1.7	2.3	6	2	100%	MSCP development footprint	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
189	Jacaranda mimosifolia	Jacaranda	0.2	0.18	1.7	2.2	8	4	100%	MSCP development footprint	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
190	Leptospermum petersonii	lemon-scented teatree	0.11	0.08	1.3	1.0	4	1	100%	MSCP Landscaping	Young	Fair/Poor	Poor	Low	Low	Low	3a		Remove
191	Hakea dactaloides	Finger Hakea	0.2	0.1	1.7	1.2	6	2	100%	MSCP development footprint	Mature	Fair/Poor	Poor	Low	Low	Low	3b		Remove
192	Banksia integrifolia	Coast Banksia	0.15	0.13	1.5	1.6	6	2	100%	MSCP development footprint	Semi Mature	Fair	Fair/Poor	Medium	Low	Low	2a		Remove
193	Eucalyptus radiata	Narrow-leafed Peppermint	0.64	0.58	2.7	7.0	16	8	100%	MSCP development footprint	Mature	Fair	Fair	Medium	Medium	Medium	2a		Remove
194	Corymbia maculata	Spotted Gum	0.48	0.44	2.4	5.3	18	10	100%	MSCP development footprint	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
195	Lophostemon confertus	Brush Box	0.48	0.44	2.4	5.3	18	8	100%	MSCP Landscaping	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
196	Lophostemon confertus	Brush Box	0.58	0.52	2.6	6.2	18	6	38%	MSCP Stormwater	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
197	Jacaranda mimosifolia	Jacaranda	0.22	0.2	1.8	2.4	8	3	100%	MSCP development footprint	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
198	Jacaranda mimosifolia	Jacaranda	0.26	0.22	1.9	2.6	10	4	100%	MSCP development footprint	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
199	Ulmus parvifolia	Chinese Elm	0.35	0.28	2.1	3.4	16	6	100%	MSCP development footprint	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
200	Ulmus parvifolia	Chinese Elm	0.24	0.21	1.8	2.5	16	6	100%	MSCP development footprint	Mature	Fair	Fair/Poor	Medium	Low	Low	2a		Remove

										Appendix 1 Tree Data So	chedule P9)							
No	Genus-Species	Common name	DAB metres (radius)	DBH metres (radius)	SRZ (radius)	TPZ (radius)	Height	Canopy Spread (Radius)	TPZ Incursion		Age	Health	Condition	Useful Life Expectancy	Landscape significance	Retention value	Sule	Observations/Comments	Retain/Remove
			Above buttress	Dia at Breast Height	Metres	Metres	Metres	Metres	%	Tree Impact	Young Semi- mature Mature Over-mature	Good Fair Fair/Poor Poor Failed	Good Fair Fair/Poor Poor Failed	High Medium Low	High Medium Low	High Medium Low	Safe Useful Life Expectancy		
201	Ulmus parvifolia	Chinese Elm	0.4	0.36	2.3	4.3	16	8	100%	MSCP development footprint	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
202	Backhousia citriodora	Lemon Scented Myrtle	0.11	0.09	1.3	1.1	5	1	100%	MSCP Landscaping	Young	Fair	Fair/Poor		Low	Low	2b		Remove
203	Albizia julibrissin	Persian Silk Tree	0.12	0.1	1.4	1.2	5	2	100%	MSCP Landscaping	Young	Fair	Fair/Poor	Medium	Low	Low	2b		Remove
204	Tristaniopsis laurina	Water Gum	0.15	0.13	1.5	1.6	5	2	100%	MSCP Landscaping	Semi Mature	Fair/Poor	Fair/Poor	Medium	Low	Low	2b		Remove
205	Quercus palustris	Pin Oak	0.14	0.11	1.4	1.3	8	2	100%	MSCP Landscaping	Young	Fair	Fair	Medium	Low	Low	2a		Remove
206	Laurus nobilis	Bay Laurel	0.35	0.3	2.1	3.6	10	3	100%	MSCP development footprint	Mature	Fair	Fair/Poor	Medium	Low	Low	2a		Remove
207	Olea africana	African Olive	0.35	0.3	2.1	3.6	10	4	100%	MSCP development footprint	Mature	Fair	Fair/Poor	Medium	Low	Low	2b		Remove
208	Banksia integrifolia	Coast Banksia	0.35	0.3	2.1	3.6	12	4	100%	MSCP development footprint	Mature	Fair	Fair/Poor	Medium	Low	Low	2b		Remove
209	Callistemon viminalis	Bottle Brush	0.25	0.2	1.8	2.4	8	2	100%	MSCP development footprint	Mature	Fair	Fair/Poor	Medium	Low	Low	2b		Remove
210	Populus nigra	Black poplar	0.3	0.24	2.0	2.9	18	3	100%	MSCP development footprint	Mature	Fair	Fair	Medium	Medium	Medium	2a		Remove
211	Quercus robor	English Oak	0.3	0.26	2.0	3.1	12	6	100%	MSCP Landscaping	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
212	Quercus robor	English Oak	0.25	0.23	1.8	2.8	12	6	nil	retain	Mature	Fair/Poor	Fair/Poor	Medium	Medium	Medium	2a		Retain
213	Quercus robor	English Oak	0.12	0.09	1.4	1.1	4	2	nil	retain	Young	Fair	Fair/Poor	Medium	Low	Low	2b		Retain
214	Quercus robor	English Oak	0.17	0.13	1.6	1.6	6	3	nil	retain	Semi Mature	Fair	Fair/Poor	Medium	Low	Low	2b		Retain
215	Quercus robor	English Oak	0.2	0.17	1.7	2.0	12	6	nil	retain	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Retain
216	Platanus acerifolius	London Plan Tree	0.5	0.45	2.5	5.4	18	8	nil	retain	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Retain
217	Jacaranda mimosifolia	Jacaranda	0.2	0.18	1.7	2.2	10	3	nil	retain	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Retain
218	Jacaranda mimosifolia	Jacaranda	0.22	0.2	1.8	2.4	12	4	nil	retain	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Retain
219	Jacaranda mimosifolia	Jacaranda	0.21	0.19	1.7	2.3	8	2	nil	retain	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Retain
220	Jacaranda mimosifolia	Jacaranda	0.35	0.32	2.1	3.8	14	6	nil	retain	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Retain
221	Jacaranda mimosifolia	Jacaranda	0.2	0.18	1.7	2.2	14	2	nil	retain	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Retain
222	Jacaranda mimosifolia	Jacaranda	0.3	0.27	2.0	3.2	14	6	nil	retain	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Retain
223	Jacaranda mimosifolia	Jacaranda	0.28	0.26	1.9	3.1	14	4	nil	retain	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Retain
224	Archontophoenix cunninghamiana	Bangalow Palm	0.1	0.1	1.3	1.2	12	2	100%	MSCP Stormwater Design	Mature	Fair	Fair/Poor	Medium	Low	Low	2b	Multi-trunked from base.	Remove
225	Photinia 'Red Robin'	Photinia	0.1	0.15	1.3	1.8	10	2	100%	MSCP development footprint	Mature	Fair	Fair/Poor	Medium	Low	Low	2b		Remove

									1	Appendix 1 Tree Data Sch	nedule P1	0							
No	Genus-Species	Common name	DAB metres (radius)	DBH metres (radius)	SRZ (radius)	TPZ (radius)	Height	Canopy Spread (Radius)	TPZ Incursion		Age	Health	Condition	Useful Life Expectancy	Landscape significance	Retention value	Sule	Observations/Comments	Retain/Remove
			Above buttress	Dia at Breast Height	Metres	Metres	Metres	Metres	%	Tree Impact	Young Semi- mature Mature Over-mature	Good Fair Fair/Poor Poor Failed	Good Fair Fair/Poor Poor Failed	High Medium Low	High Medium Low	High Medium Low	Safe Useful Life Expectancy		
226	Photinia 'Red Robin'	Photinia	0.1	0.15	1.3	1.8	10	2	100%	MSCP development footprint	Mature	Fair	Fair/Poor	Medium	Low	Low	2b		Remove
227	Photinia 'Red Robin'	Photinia	0.1	0.15	1.3	1.8	10	2	100%	MSCP development footprint	Mature	Fair	Fair/Poor	Medium	Low	Low	2b		Remove
228	Photinia 'Red Robin'	Photinia	0.1	0.15	1.3	1.8	10	2	100%	MSCP development footprint	Mature	Fair	Fair/Poor	Medium	Low	Low	2b		Remove
229	Photinia 'Red Robin'	Photinia	0.1	0.15	1.3	1.8	10	2	100%	MSCP development footprint	Mature	Fair	Fair/Poor	Medium	Low	Low	2b		Remove
230	Photinia 'Red Robin'	Photinia	0.1	0.15	1.3	1.8	10	2	100%	MSCP development footprint	Mature	Fair	Fair/Poor	Medium	Low	Low	2b		Remove
231	Photinia 'Red Robin'	Photinia	0.1	0.15	1.3	1.8	10	2	100%	MSCP development footprint	Mature	Fair	Fair/Poor	Medium	Low	Low	2b		Remove
232	Jacaranda mimosifolia	Jacaranda	0.31	0.28	2.0	3.4	14	6	100%	MSCP development footprint	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
233	Jacaranda mimosifolia	Jacaranda	0.2	0.18	1.7	2.2	10	4	100%	MSCP development footprint	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
234	Jacaranda mimosifolia	Jacaranda	0.38	0.35	2.2	4.2	15	5	100%	ISCP Landscaping and stormwate	Mature	Fair	Fair/Poor	Medium	Medium	Medium	2a		Remove
235	Jacaranda mimosifolia	Jacaranda	0.28	0.23	1.9	2.8	14	6	nil	Retain	Mature	Fair	Fair	Medium	Medium	Medium	2a		Retain
236	Corymbia maculata	Spotted Gum	0.38	0.35	2.2	4.2	14	6	nil	Retain	Mature	Fair	Fair	Medium	Medium	Medium	2a		Retain
237	Platanus acerifolia	London Plane Tree	0.52	0.46	2.5	5.5	18	8	100%	MSCP development footprint	Mature	Good	Good	Medium	Medium	Medium	2a		Remove
238	Platanus acerifolia	London Plane Tree	0.42	0.38	2.3	4.6	18	8	100%	MSCP development footprint	Mature	Good	Good	Medium	Medium	Medium	2a		Remove
239	Platanus acerifolia	London Plane Tree	0.6	0.53	2.7	6.4	18	8	100%	MSCP development footprint	Mature	Good	Good	Medium	Medium	Medium	2a		Remove
240	Platanus acerifolia	London Plane Tree	0.48	0.42	2.4	5.0	18	8	25%	MSCP development footprint	Mature	Good	Good	Medium	Medium	Medium	2a		Remove