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TREE ASSESSMENT REPORT

TIRAL STREET, CHARLESTOWN

Uniting

OCTOBER 2023

TERRAS LANDSCAPE ARCHITECTS 412 KING STREET NEWCASTLE 2300

Eucalyptus microcorys (TREE 1)(#BTC1)

UNITING CARE - CHARLESTOWN

TREE IMPACT ASSESSMENT REPORT

LOCATION: TIRAL STREET, CHARLESTOWN

PROJECT NO.	12964.5
DATE:	OCTOBER 2023
REVISION	E

UNITING CARE - CHARLESTOWN

TREE IMPACT ASSESSMENT REPORT

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REV	DESCRIPTION	DATE
A	PRELIMINARY TREE ASSESSMENT	2019-12-20
B	REVISED PRELIMINARY TREE ASSESSMENT	2020-01-10
CA	PRELIMINARY TREE IMPACT ASSESSMENT REPORT	2022-08-30
D	TREE IMPACT ASSESSMENT REPORT	2022-09-01
E	REVISIONS RELATING TO TREE 15	2023-10-26

1 INTRODUCTION

Terras Landscape Architects has been engaged by Uniting Care to:

- undertake tree tagging;
- tree assessment; and,
- reporting on up to 250 trees.

The report assesses all trees occurring on site and additional street trees located with the street verges adjoining the site.

The engagement included:

- assessing health and vigour of the subject trees;
- providing advice during the design phase concerning means to retain trees were suitable and appropriate; and,
- determining what impacts the proposed development may have on the trees including assessments regarding tree retention or removal.

The details included in this report are based on observations made during a number of site inspections undertaken over the week commencing 9th December, 2019 with the site having been revisited during November 2021 and then again in April 2022. The purpose of the follow-up visits was to update assessment data and to confirm the current condition of trees occurring on-site having regard to the age of the initial assessments.

2 ASSESSING ARBORIST

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NAME:	Phillip Williams	Vivianne Bleiker
QUALIFICATIONS:	B.Sc. (Arch.), B.Land.Arch. Hort.Cert., Dip.Hort.(Arboriculture) AQF Level 5 Certificate No. 626239	Dip.Hort.(Arboriculture) AQF Level 5 Certificate No. 240433

3 CLIENT

CLIENT:	The Uniting Church Property Trust (NSW) (Uniting Care)
PROJ. MANAGER:	TSA Management
CONTACT:	Julian Pavey
ADDRESS:	Level 4, 25 Watt Street, Newcastle, NSW, 2300
PHONE:	0438 704 945
EMAIL:	Julian.Pavey@tsamgt.com

FIGURE 1: PROPOSED DEVELOPMENT SITE LOCALITY
[BASE AERIAL: NEARMAP - USED UNDER LICENCE]

4 SCOPE AND METHODOLOGY

The following is a summary of the approach taken to assess the trees leading to the preparation of this report:

- All trees to be assessed were located by survey and then tagged using standard, stamped aluminium tree tags routinely located on the eastern side of each tree approximately 1.8m above the ground-line.
- Visual Tree Inspections (VTA), (Mattheck & Breloer, 1994) were undertaken. All trees on and adjoining the site with the potential to be affected by the construction work were inspected and assessed from the ground. The VTA included all visible above ground parts of the tree including: exposed roots; trunk; branches; and, foliage.
- Tools used for the VTA process included:
  - diameter tape for DBH and DAB sizes with metric measurements on the reverse side to measure the size of cavities, where reachable;
  - probe to determine the extent of cavities, where reachable;
  - camera to obtain a visual record of tree conditions, their situation and details of issues likely to affect health and longevity;
  - nylon faced head mallet to perform resonation testing[1],[2].
  - note pad to record the data as assessed on site. The method is based on the ISA (International Society of Arboriculture) system for Basic Tree Assessment only.
- Diameter at breast height (DBH) and diameter at base – above the basal flare (DAB) measurements were taken and used to calculate the tree protection zones (TPZ) and structural root zones (SRZ) of each tree undertaken in accordance with *AS 4970 – Protection of trees on development sites.*
- Useful Life Expectancy (ULE) and TREE AZ ratings were assessed using several factors such as: location; species; age; health; and, structure.

It should be noted that the following, more detailed assessment measures did not form part of the VTA inspection:

- No below ground inspections or analyses were undertaken within the root zone.
- No internal inspections or tissue analyses were undertaken on the subject trees.
- No aerial inspections were undertaken.

If it were thought important in carrying out an advanced assessment of individual trees, then such investigations would occur as recommendations later in this report if considered important in assessing tree retention/removal.

Figure 1 shows the location of the proposed development site within its locality.

[1] A nylon face head mallet is used to tap areas appearing suspicious, such as basal wounds, bulges or differentiated areas along the reachable areas of the trunk. This achieves an audible 'echo' or hollow sound if differentiated internal wood is found. The significance is to identify an internal cavity or decay[2] which would then warrant further investigation if necessary.

[2] Page 118, Mattheck et al, 1994 – Section 8.4: Procedure for mechanical tree assessment using VTA method,

5 THE SITE

Property Details and Description

The site of the real property proposed development is as follows:

- Lot 223 Deposited Plan # 551260, otherwise known as 27 Tiral Street, Charlestown, 2290

The majority of the site is zoned R3: Medium Density Residential with a portion to the west fronting Dudley Road being zoned B4: Mixed Use.

The site has an area of approximately 2.08 hectares with a stepped fall of roughly 8m across the site with the high point occurring at the corner of Dudley Road and Tiral Street and falling to the north-east corner where a pedestrian walkway meets with James Street. A drainage easement/drainage reserve crosses the site conducting water from Tiral Street to James Street. A section is an open, rock-lined channel which was developed as a landscape feature of the campus. The site has been cleared of major structures with mainly roads, paths and retaining structures remaining. The site features a large selection of trees and palms, both native and exotic.

History

The site was previously the Charlestown College of TAFE which specialised in providing horticulture-related courses including: amenity horticulture; green-keeping; and nursery management. The facility was opened at the beginning of the 1979 tertiary year having been primarily constructed by pre-apprentice students from Newcastle Technical College. The site initially consisted of a two level classroom and laboratory block, a masonry block machinery shed, and a glass house, soil sterilisation shed and potting rooms. Later additions included library facilities, staff amenities and administration offices. The grounds of the college were progressively developed by staff and students and included: a rich array of trees and other plant material to assist in the teaching of plant identification; a bowling green; putting and chipping green; and, various speciality landscaped areas designed and constructed by students. The facility also included an annex located at Firth Street, Kahibah. The college was closed in 2003 with courses moving to the Kurri Kurri Campus.

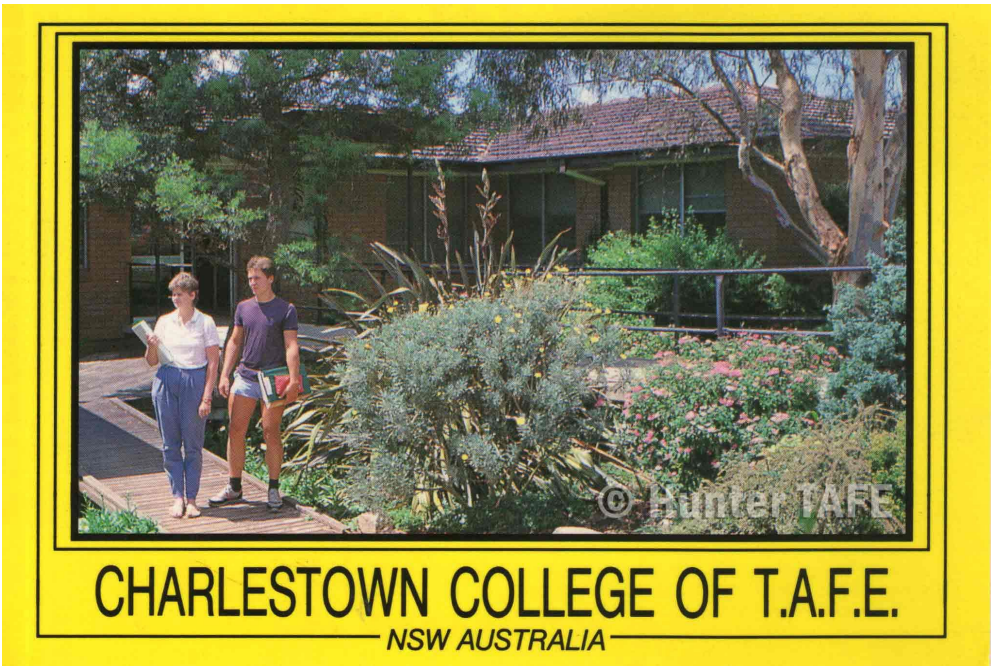

FIGURE 2: POSTCARD CIRCA 1980s
[SOURCE: https://huntertafe.libguides.com/HunterTAFEHistorical/RetiredCampusLocationsEvents– ACCESSED 2019/12/19]

FIGURE 3: EARLY IMAGES OF THE CAMPUS (c. 1980)
(SOURCE: TOM LANTRY, INAUGURAL PRINCIPAL)

6 THE PROPOSAL

Uniting Care is proposing to develop the former TAFE site as a mixed-use seniors housing and residential development.

The project will be undertaken in the following phases:

- Site preparation works including whole of site contamination remediation works with select vegetation removal and earthworks;
- A residential aged-care facility (RAC) building incorporating ancillary uses;
- Two seniors housing buildings comprised of independent living units (ILUs() and ancillary uses;
- A residential flat building (RFB), intended to be used by seniors and others; and,
- The establishment of a one into three lot Torrens title subdivision.

The site is to be extensively landscaped with the aim of creating a home for residents through the provision of private and public open spaces whilst contributing to the surrounding Charlestown community by allowing access to some common facilities located at some road interfaces.

The project is to be a staged development with the RAC Building, located at the lower, and eastern end of the site to be the first stage. The top, or western end of the overall site facing Dudley Road, will be left vacant at this stage and will be the subject of a future Development application.

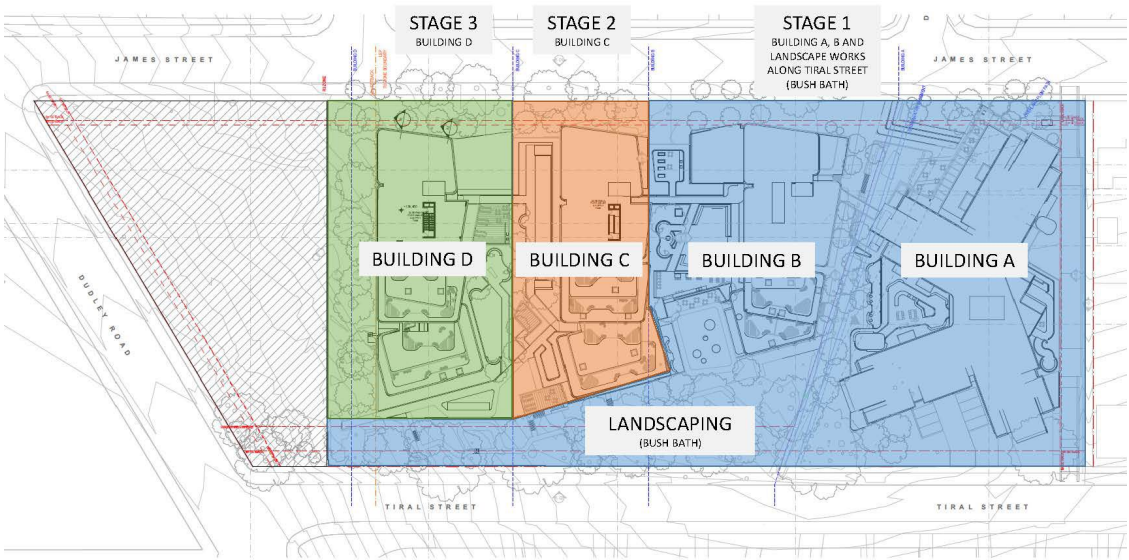

FIGURE 4: STAGING DIAGRAM
[SOURCE: Image supplied by TSA Management]

It is considered that the development will make a strong contribution to the burgeoning Charlestown growth centre by adding to the mix of housing opportunities including extending the supply of in-demand accommodation for seniors and the provision of complementary facilities.

7 IMPACT ASSESSMENT SUMMARY

A total of 270 trees were assessed across the overall site including 39 trees in the undeveloped area to the west facing Dudley Road (future stage).

Once trees had been inspected and data collected; civil, architectural, landscape and Rehabilitation Action Plan (RAP) drawings were overlaid on the developed TPZ/SRZ diagrams and an assessment was undertaken using the criteria referenced in AS 4970-2009 having regard to: the health and structure of the trees; the type of distrurbance and the extent of encroachment. This resulted in trees being categorised in four ways: **1. Trees to be Retained; 2. Trees to be Removed; 3. Threatened Trees;** and, **4. Trees/Palms Possible for Transplanting**.

- **1. Trees to be Retained** were those trees that have little or acceptable levels of encroachment and are expected to survive following the development process.
- **2. Trees to be Removed** were those trees that will be significantly be impacted by the development works. These trees frequently occur within the development footprint, which in this case, corresponded to the supplied Bulk Earthworks Plan (MPC, 200243/00300/ISSUE 1) and within drainage, stormwater and hydraulic easements or similar structures ancillary to the buildings.
- **3. Threatened Trees** were those trees that could not be fully assessed due to the level of information common for a SSDA or where trees had the potential to be retained with minor modifications to the design. Commonly these trees were affected by paths or walkways which have the potential for modification or the introduction of boardwalks or similar. In addition to this, some trees are located in areas containing contaminated soils that will require rehabilitation at some stage. The extent of works (i.e. excavation/removal or capping) cannot be determined until more site investiagtions have been undertaken. Generally, these trees would be reassessed once discussions were completed and the detailed design drawings prepared and/or further contamination investigations have been undertaken.
- **4. Tree/Palms Possible for Transplanting** were those trees/palms that would require transplanting to be retained otherwise they would be last during the development process. This category was applied to the majority of palms with the exception of *Syagrus romanzoffiana* (Cocos/Queen Palms), that are considered to be undesirable plants due to issues with prolificy, and palms that were of poor quality. Just because a palm has been assessed as being suitable for transplanting, a more detailed assessment would be required on a case by case basis as some palms may be difficult to access or are growing in close proximity to other palms requiring careful extraction or trying to move a clumb of palms at once. Transplanting palms may also be impacted by soil contamination issues which would also need to be considered.

Refer Appendix A for a more detailed assessment of all trees.

Below is a table summarising the results.

	1. RETAINED	2. REMOVED	3. THREATENED	4. TRANSPLANT	TOTALS
STAGES 1-2	0	139	70	22	**231**
FUTURE STAGE	31	1	7	0	**39**
TOTALS	**31**	**140**	**77**	**22**	**270**

Tree 15

Below is a detailed assessment of Tree 15 showing an overall 42.5% encroachment of the tree's TPZ allowing for minimal construction tolerances. This is a substantial encroachment far exceeding the limits of AS 4970 including allowances made in **Section 3.3.4 TPZ encroachment considerations.** This level of encroachment would normally result in the removal of the tree which was the tree's preliminary classification.

At the request of the design team, the tree has been reclassified as "threatened" allowing the tree to be retained and monitored. As the encroachment is clear of the tree's SRZ, retention of the tree will not result in a significant failure but more a gradual decline should the tree be unable to adequately adjust to its reduced root plate and new growing conditions. This should allow periodic assessments to be made and promptly identify whether the tree becomes hazardous, the liability of which will be the responsibility of the facility's owner at the time.

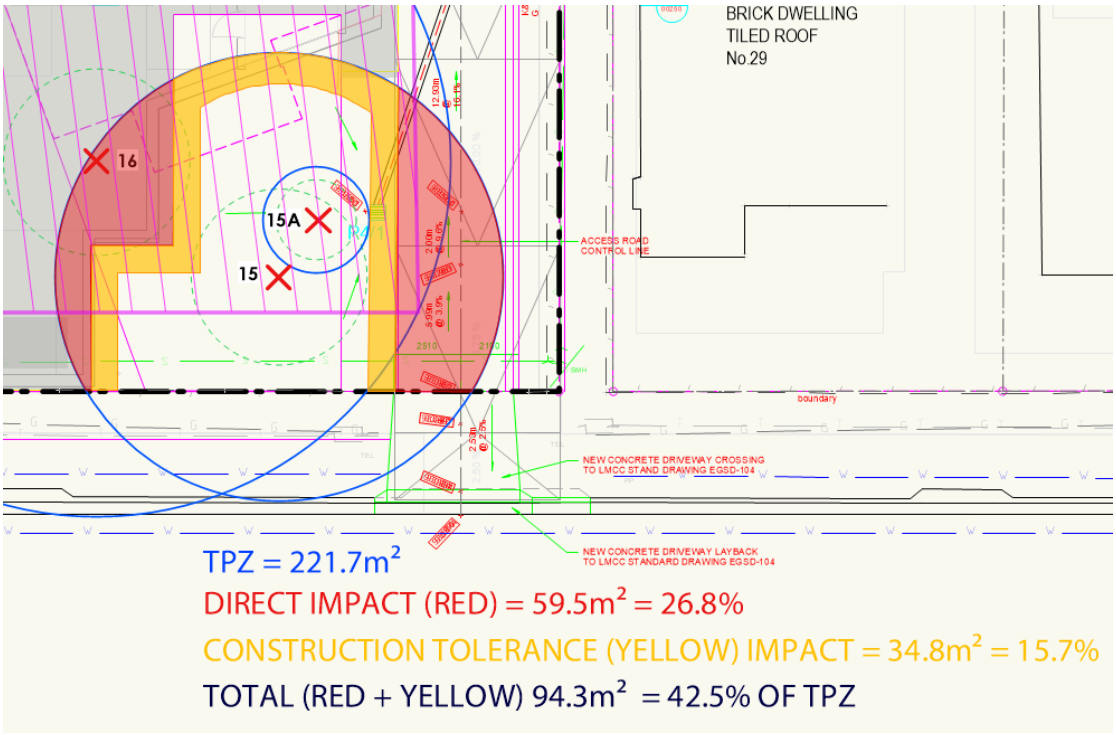

FIGURE 6: TREE 15 – DETAILED ENCROACHMENT ASSESSMENT

To assist in the tree's viability, specific recommendations have been provided in the following section.

8 CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Based on the impact of the proposed development works, the following trees will be required to be removed.

TREES REQUIRED TO BE REMOVED											
8	9	-	15A	16	17	18	19	20	24	25	27
28	29	30	31	32	33	34	35	36	37	38	39
40	41	45	47	70	75	76	84	85	86	89	90
91	92	93	94	96	97	98	99	100	101	102	103
104	105	106	107	108	109	111	114	115	116	117	118
119	133	134	135	136	137	138	139	140	141	142	143
144	145	153	154	154A	154B	155	156	157	158	159	159A
160	162	167	168	169	170	171	172	173	174	175	176
197	198	199	200	201	202	203	204	205	206	207	208
209	210	211	212	213	214	215	235	236	237	238	239
240	241	242	242	244	245	253	256	258	259	260	261
291	292	293	294	298	299	300	301	302			

The following trees have the potential to be retained subject to consultation and design modifications being implemented during the documentation phase of the project and following detailed contamination investigations and liaison with the site hygienist.

THREATENED TREES											
2	3	5	6	7	10	11	21	22	23	42	43
44	46	48	49	50	51	52	53	54	55	56	57
58	59	60	61	62	63	64	65	66	67	68	69
71	72	73	74	77	78	79	80	81	82	83	87
88	110	112	113	120	121	122	123	124	125	126	127
128	129	130	131	132	177	196	226	228	229	230	231
232	233	296	297	15							

All other trees should be adequately protected during the works to ensure they are not subjected to further impacts as noted below and as detailed in Appendix E.

Recommendations

- Negotiate with Lake Macquarie City Council regarding the removal and replacement of street trees located within James Street.
- Have the project arborist review palms proposed for transplanting and advise on suitability and requirements for undertaking the transplanting works. The assessment should alos include discussions with the site hygienist to confirm this will not result in exposure to contaminants.
- Have the project arborist assist during the design development and documentation phases for structures including pathways and services that occur in the vicinity of those trees designated as "threatened". This is required to determine whether it is possible for threatened trees to be retained by undertaking design modifications or altering construction techniques.

- Once "threatened' and "transplant" trees/palms have been re-assessed, the project arborist is to re-issue the updated Tree Assessment Sheets/TPZ-SRZ Diagrams for use on site.
- Prepare a Tree Retention and Protection Diagram showing tree protection fencing and root protection systems in critical the locations as part of the documentation works for all trees to be retained. This drawing should be prepred in consultation of the design team (and head contractor, if one is approinted at this stage of the project).
- No construction activities, including but not limited to: accessing the site; storing equipment or materials; and, the erection and supporting of scaffolding, shall occur within the fenced tree protection zones. The project is to review the tree protection measures prior to the commencement of earthworks and/or tree removal.
- All trees to be removed shall be clearly marked by the project arborist encircling the tunk at 1500mm (approx. eye height) above ground level using fluorescent pink spray paint, or similar, ensuring that only the one colur is used consistently to avoid confusion. This work shall be carried out by the project arborist **prior** to the removal of any tree. Any tree not marked in this manner shall be assumed to be retained.
- Tree removal work shall be done in manner that is most appropriate with respect to nearby trees to be retained having regard to: fall zones; interlocking canopies; and, intertwined root plates to ensure that no unintended collateral damage is sustained to the trees to be retained.
- Inspect all retained trees at the completion of the tree removal work and trim harardous or damaged limbs, if required.
- Ensure tree removal work and hazard reduction work is carried out by or supervised by a qualified tree worker (AQF Level 3 or equivalent) in accordance with the australian Standard AS 4373-2007: *Pruning of amenity trees* and the *Guide to Managing Risks of Tree Trimming and Removal Work* (Safe Work Australia, 2016)
- Any trenching required to be undertaken within the TPZ of trees to be retained should be monitored by an AQF5 arborist. Should roots >38mm diameter be encountered, then the arborist should inspect and properly trim roots to minimise the potential for infection.
- Tree remains to be mulched. Mulch can be used around remaining trees to relieve compaction and improve soil microbiology. If not practical to mulch fallen trees on site, the material can be disposed of in a legal manner off site and imported mulch used.

Tree 15

- In addition to the recommendations for threatened trees noted above, the following shall also be undertaken:

    * As early as possible, mark out the limits of construction in the proximity of Tree 15 and erect tree protection fencing.
    * Clear weed and other growth within the defined area.
    * Undertake the application of a plant growth regulator that assists in the initiation of compensatory root growth (e.g. Seasol®). Reapply using the manufacturer's recommendations.
    * Undertake a 25mm (approx) thick application of a root zone conditioner comprised of: soured lucerne, worm castings and well-composted mulch.
    * Undertake a 75mm (approx) thick application of an organic mulch (e.g. course site chippings) for the purpose of retaining moisture and to provide a protective layer.
    * At be beginning of Spring, Summer and Autumn, apply an organic liquid fertilizer (e.g. PowerPlus®) and water in.

- Provide a temporary watering-system that delivers 25mm/m^2 cover of water/per week across the TPZ of the tree. One deep-watering per week is preferred rather than more frequent but shorter watering events.
- Vary the watering regime as required to take into consideration natural rainfall. The watering-system is to remain until at least 12 months after the surrounding construction works has been completed.

- During desgn development and documentation phases the design team is to liaise with the project arborist to review levels and services to ensure that further encroachments do not occur within the defined area. This shall also include a review of construction methods to limit additional clearances to prevent futher encroachment occurring during the construction phase of the project.

- During the construction phase, and for a period of five years after completion, the project arborist is to routinely inspect the tree to assess its health and vigour and advise on future works as required. During construction, inspections should be undertaken no less than every four weeks. Post construction, inspections should occur no less that every four months unless the project arborist advises otherwise.

9 REFERENCES

Arcadia Landscape Architects	*Uniting Care Charlestown, Landscape Design* (June 2022)
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Draper, D. & Richards, P.A.	*Dictionary for Managing Trees in Urban Environments*. CSIRO, Collingwood Vic, 2009.
Institute of Australian Consulting Arboriculturists	IACA Significance of a Tree, Assessment Rating System (STARS), IACA 2010
Link Tree System Ltd. (Barrell, J.)	*Arboricultural Journal* 1993, Vol. 17pp. 33-46, 01/03/98
Lonsdale, D	1999, *Principles of Tree Hazard Assessment and Management*, Arboricultural Association, The Malthouse, Stonehouse, United Kingdom.
Mattheck, C., Breloer, H.; Strouts, R	1994, *The Body Language of Trees: A Handbook for Failure Analysis.* TSO, London, England.
NSW Government	*Lake Macquarie Local Environmental Plan 2012*
NSW Legislation, Australia	*Noxious Weeds Act 1993 No 11*.
Safe Work Australia	*Guide to Managing Risks of Tree Trimming and Removal Work,* Australian Government, 2016.
Shigo, A. L	1998, *A New Tree Biology and Dictionary,* Shigo and Trees, Associates LLC, Snohomish, WA, U.S.A.
Standards Australia	*Australian Standard: AS 4970-2009 Protection of trees on development sites*. (August 2009).
Standards Australia	*Australian Standard, AS 4373-2007 Pruning of amenity trees*. (March 2007)
Treeology Pty Ltd	*Preliminary Tree Assessment Report for Uniting Care Aging* (December 2011)
Urban, J	2008, *Up by Roots*, International Society of Arboriculture, Illinois, U.S.

10 APPENDICES

- APPENDIX A: TREE ASSESSMENT SHEETS
- APPENDIX B: IMAGES (2019)
- APPENDIX C: TREE ASSESSMENT: TPZ/SRZ DIAGRAMS
- APPENDIX D: TREE PROTECTION MEASURES
- APPENDIX E: ULE AND STARS© CLASSIFICATIONS

APPENDIX A – TREE ASSESSMENT SHEETS 2022

TREE ASSESSMENT TABLE

No	BOTANICAL NAME	COMMON NAME	AGE CLASS	HEIGHT [M]	DBH[1] [MM]	TPZ [M]	DAB[2] [MM]	SRZ [M]	ULE	STARS© SIG. RATING	STARS© RETENT. VALUE	STRUCT	HEALTH	COMMENTS
1		NO TREE												LOCATED OFF SITE - STREET TREE - FORMER PLANE TREE, REMOVED c.OCTOBER 2020
2	*Acer negundo*	Box Elder	M	7	0.39	4.7	0.56	2.6	1B	1. HIGH	HIGH	Av	Av	**STREET TREE**, ADJACENT TO THE SITE. FOUR LEADING TRUNKS, 22, 20, 20 AND 15CM DBH. SURFACE ROOTS SOUTH. ROOT CROWN SHOOTS. LOW SCAFFOLD BRANCHING SOUTHWARDS. INNER CANOPY TWIG DIEBACK. NEW EPICORMIC GROWTH OCCURRING CLOSE TO BASE. SOME STORM DAMAGE NOTED MID-CANOPY.
3	*Ulmus procera* 'Variegata'	Variegated English Elm	M	8	0.26	3.1	0.31	2.0	1B	1. HIGH	HIGH	Av	F	**STREET TREE**, ADJACENT TO THE SITE. PRUNING HISTORY. SURFACE ROOTS. ROOT CROWN BULGE. TRUNK FLUTED. VINE INCURSION THROUGHOUT PARTIALLY OVERCOME TREE; VINE IN DECLINE. FAILED BRANCHES. CANOPY BEING OVER-RUN BY GARLIC VINE (*MANSOA ALLIACEA*) AND WEIGHING DOWN SOME BRANCHES. REMOVAL RECOMMENDED.
4		NO TREE												LOCATED OFF SITE - STREET TREE
5	*Ulmus parvifolia*	Chinese Elm	M	10	0.53	6.4	0.85	3.1	1A	1. HIGH	HIGH	Ex	Ex	**STREET TREE**, ADJACENT TO THE SITE. OVER UNDERGROUND TELECOMMUNICATIONS PIT EAST. BASAL FLARE. TRUNK FLUTED. SMALL SIZE GIRDLING ROOT, WOUNDED; OTHER WOUNDED ROOTS. SURFACE ROOTS ALONG KERB, NORTH. PRUNING HISTORY, NOTCHES. MINOR GRADE TWIG DIEBACK. MINOR BRANCH STUBS PRESENT.
6	*Ulmus procera* 'Variegata'	Variegated English Elm	M	12	0.31	3.7	0.47	2.4	2D	1. HIGH	HIGH	Ex	F	**STREET TREE**, ADJACENT TO THE SITE. OVER UNDERGROUND TELECOMMUNICATIONS PIT EAST. ROOT CROWN WOUNDED. SURFACE ROOTS WEST. EPICORMIC GROWTH TO LOWER TRUNK. PRUNING HISTORY. TWIG DIEBACK. HEALTH DEFICIENCIES SUSPECTED. MINOR DEADWOOD WITHIN MID-CANOPY.
7	*Lophostemon confertus*	Brush box	SM	11	0.37	4.4	0.66	2.8	1B	1. HIGH	HIGH	Av	Av	**STREET TREE**, ADJACENT TO THE SITE. OVER UNDERGROUND TELECOMMUNICATIONS PIT EAST. PRUNING HISTORY, NOTCHES. SURFACE ROOTS. ASYMMETRICAL BASAL FLARE. TRUNK FLUTED. PIN OAK, TREE 294, ENCROACHMENT FROM SUBJECT SITE. SOME BRNACHES RUBBING AGAINST ONE ANOTHER.
8	*Lophostemon confertus*	Brush box	M	10	0.49	5.9	0.71	2.9	1B	1. HIGH	HIGH	Av	Ex	**STREET TREE**, ADJACENT TO THE SITE. PRUNING HISTORY. LARGE QUANTITY OF SURFACE ROOTS, WOUNDED. LARGE DIAMETER GIRDLING ROOT WESTWARDS. BASAL FLARE, PREDOMINANTLY EASTWARDS. TRUNK WITH GROWTH CRACKS. LOWER TRUNK HAS A DISCOLOURED FISSURE, SOUTH. SLIGHT LISP NORTHWARDS. LOW BRANCHING.
9	*Lophostemon confertus*	Brush box	SM	10	0.29	3.5	0.57	2.6	2C	1. HIGH	HIGH	F	P	**STREET TREE**, ADJACENT TO THE SITE. PRUNING HISTORY. LEANS NORTHWARDS. LARGE DIAMETER SURFACE ROOT FROM ADJOINING KAFFIR PLUM TREE 98 IN SUBJECT SITE. ASYMMETRY. DEAD BRANCHES. WOUNDED TRUNK, DIFFERENTIATED BARK, EXUDING BELOW SCAFFOLD JUNCTION. HIGH CANOPY. REDUCED CANOPY DENSITY
10	*Lophostemon confertus*	Brush box	M	8	0.30	3.6	0.50	2.5	1B	1. HIGH	HIGH	Ex	Ex	**STREET TREE**, ADJACENT TO THE SITE. PRUNING HISTORY, NOTCHES. SURFACE ROOTS.
11	*Lophostemon confertus*	Brush box	SM	10	0.30	3.6	0.58	2.6	1B	1. HIGH	HIGH	F	Av	**STREET TREE**, ADJACENT TO THE SITE. PRUNING HISTORY, NOTCHES. SURFACE ROOTS. BASAL FLARE, BOTTLE FORMATION OF ROOT CROWN. ROOT CROWN CANKER SOUTH, APEX ACUTE. TRUNK BOW AND SWEEP. TRUNK WITH GROWTH CRACKS. ASYMMETRY.
12		NO TREE, NOTED ON EARLIER SURVEY												
13		NO TREE, NOTED ON EARLIER SURVEY												
14		NO TREE, NOTED ON EARLIER SURVEY												
15	*Corymbia citriodora*	Lemon Scented gum	M	20	0.70	8.4	0.99	3.3	1B	1. HIGH	HIGH	Ex	Av	SLIGHT LISP SOUTHWARDS. BASAL FLARE. BRANCHING SOUTHWARDS, LATERAL. FAILED SCAFFOLD BRANCH AT 6M WITH STUB DIEBACK.
15A	*Corymbia citriodora*	Lemon Scented gum	Y	8	0.12	2 (min)	0.17	1.5 (min)	1A	2.MED	MEDIUM	Ex	Ex	DEVELOPING SELF-SOWN SAPLING. BEGINNING TO COMPETE WITH ADJOINING CANOPY THAT WILL AFFECT FUTURE GROWTH. REMOVAL RECOMMENDED.

1. MULTI TRUNKED TREES HAVE AN AVERAGE MEASUREMENT CALCULATED IN ACCORDANCE WITH AS 4970. 2. MINIMUM DISTANCE ALLOWED 2. DAB = DIAMETER ABOVE BUTTRESS USED WHEN CALCULATING SRZ. 3. SPECIES TO BE CONFIRMED © STARS – IACA 2020

LEGEND

AGE CLASS	Y	**YOUNG** SAPLING/HAS NOT REACHED 1ST ADULT FORM	SM	**SEMI-MATURE** DBH < 300mm/APPROACHING FULL HEIGHT	M	**MATURE** DBH BET. 300 -700/APPROACH. MAX HT & SPREAD	OM	**OVER-MATURE/SENESCENT** LGE DBH, LGE BRANCH FAILURES/STRUCT FAULTS
STRUCTURE	P	**POOR** NUMEROUS STRUCTURAL FAULTS/HIGH RISK OF SEVERE FAILURE	F	**FAIR** STRUCTURAL FAULTS PRESENT /MODERATE RISK OF SEVERE FAILURE	Av	**AVERAGE** SOME MINOR FAULTS /MODERATE RISK FOR MAJOR FAILURE	Ex	**EXCELLENT** SOME MINOR FAULTS/LOW-MOD RISK OF MINOR FAILURES
HEALTH	P	**POOR** SIG. SIGNS OF LOST VIGOUR EG DIEBACK, REDUCED CANOPY	F	**FAIR** SIGNS OF REDUCED VIGOUR EG LEAF UNDER STRESS, STUNTING	Av	**AVERAGE** LOCALISED PATCHES OF LOST VIGOUR/NOT WIDESPREAD	G	**GOOD** NO EVIDENCE OF STRESS/SIGNS OF NEW GROWTH/WIDESPREAD
RETENTION	**1. TREES TO BE RETAINED**		**2. TREES TO BE REMOVED**		**3. THREATENED TREES**		**4. TREES/PALMS POSSIBLE FOR TRANSPLANTING**	

TREE ASSESSMENT TABLE

No	BOTANICAL NAME	COMMON NAME	AGE CLASS	HEIGHT [M]	DBH[1] [MM]	TPZ [M]	DAB[2] [MM]	SRZ [M]	ULE	STARS© SIG. RATING	STARS© RETENT. VALUE	STRUCT	HEALTH	COMMENTS
16	*Eucalyptus scoparia*	Willow Gum / Wallangarra White Gum	M	22	1.11	13.3	1.17	3.5	4A	3. LOW	SUITABLE FOR REMOVAL	Av	P	ELEVATED ROOT PLATE. SIGNIFICANT DIFFERENTIATION TO BARK THROUGHOUT STRUCTURE. HORIZONTAL BORER ACTIVITIES. TWIG AND LARGE BRANCH DIEBACK. SCAFFOLD BRANCH FAILURE NORTH. ASYMMETRICAL BRANCHING. NORTH-WEST SCAFFOLD WITH LARGE WOUND AT ~6M INTO TRUNK AT CENTRAL BRANCHING JUNCTION, APEX AND BASE ACUTE WITH CONK, BRACKET FUNGAL FRUIT BODY. DISEASED TREE. EXTENSIVE EPICORMIC GROWTH.
17	*Melia azedarach*	White cedar	OM	10	0.44	5.3	0.48	2.4	4A	3. LOW	SUITABLE FOR REMOVAL	F	P	WEST SCAFFOLD REMOVED, NOTCH. ASYMMETRY. LATERAL BRANCHING. VERY POOR FOLIAGE COVER. INSECT ACTIVITIES. DEAD BRANCHES. APPEARING IN DECLINE. FURTHER DECLINE NOTED ON RETURN INSPECTION. 5%-10% CANOPY REMAINING.
18	*Eucalyptus microcorys*	Tallowwood	M	15	0.39	4.7	0.55	2.6	3D	3. LOW	SUITABLE FOR REMOVAL	Av	F	IN A GROUP WITH TREE 19 AND 20. BASAL FLARE. ASYMMETRY. END WEIGHTED FOLIAGE DISTRIBUTION. TWIG AND BRANCH DIEBACK <20CM IN THICKNESS. STORM DAMAGE NOTED WITHIN CANOPY.
19	*Eucalyptus microcorys*	Tallowwood	M	16	0.51	6.1	0.62	2.7	3D	3. LOW	SUITABLE FOR REMOVAL	Av	F	BASAL FLARE. SURFACE ROOTS. CO-DOMINANT (41 AND 31CM DBH), UPRIGHT AND DIVERGENT EAST. UPRIGHT WITH DEAD SCAFFOLDS. QUANTITY OF TWIG DIEBACK. LOW AND DIVERGENT BRANCH STRUCTURE. HEALTH ISSUES SUSPECTED. TERMITE GALLERIES PRESENT. HABITAT TREET HB T01. POSSIBLE NEST IN FORMER TERMITE NEST.
20	*Eucalyptus microcorys*	Tallowwood	M	16	0.64	7.7	0.76	2.9	3D	3. LOW	SUITABLE FOR REMOVAL	Av	F	BASAL FLARE. STRUCTURAL SURFACE ROOT EAST. CO-DOMINANT, 54 AND 34CM DBH. LOW SCAFFOLD BRANCHING. FAILED SCAFFOLD SOUTH. ASYMMETRY. TWIG DIEBACK <10CM IN THICKNESS.
21	*Lophostemon confertus*	Brush Box	M	10	0.35	4.2	0.68	2.8	2B	1. HIGH	HIGH	Av	Av	**STREET TREE**, ADJACENT TO THE SITE. PRUNING HISTORY. SURFACE ROOTS. BASAL FLARE. TRUNK BOWS TO UPRIGHT, GROWTH CRACKS ALSO PRESENTING TO WESTERN SCAFFOLD. LOWER TRUNK, NORTH WITH EPICORMIC REGROWTH. TWIG DIEBACK EAST.
22	*Lophostemon confertus*	Brush Box	M	10	0.37	4.4	0.70	2.8	2B	1. HIGH	HIGH	Av	F	**STREET TREE**, ADJACENT TO THE SITE. CLOSE TO TELECOMMUNICATIONS PIT TO THE EAST. PRUNING HISTORY. CO-DOMINANT, 27 AND 25CM DBH. BASAL FLARE. SURFACE ROOTS, WEST. INNER CANOPY TWIG DIEBACK.
23	*Lophostemon confertus*	Brush Box	M	10	0.38	4.6	0.65	2.8	2B	1. HIGH	HIGH	Av	Av	**STREET TREE**, ADJACENT TO THE SITE. PRUNING HISTORY. BASAL FLARE. SURFACE ROOT NETWORK. CO-DOMINANT AT 1M, 28 AND 25CM DBH. MECH. DAMAGE TO SURFACE ROOTS.
24	*Eucalyptus camaldulensis*	River Red Gum	SM	10	0.51	6.1	0.69	2.8	4D	3. LOW	SUITABLE FOR REMOVAL	F	P	ELEVATED ROOT PLATE. SIGNIFICANT DIFFERENTIATION TO TRUNK BARK, DELAMINATING AND DISCOLOURED. LARGE OPEN TRUNK WOUND, DEAD CORE WITH MARGIN RIBS. LOW, LATERAL BRANCHING. TWIG AND BRANCH DIEBACK < 50CM IN THICKNESS.
25	*Ficus rubiginosa*	Port Jackson / Rusty Fig	SM	11	0.56	6.7	1.62	4.1	1B	2.MED	HIGH	Av	G	SHOWN AS TREE 26 ON THE 2019 SURVEY. CO-DOMINANT, 38 AND 41CM DBH AND MULTI-TRUNKED BUTTRESSES WITH SHOOTS. BASAL FLARE. SURFACE ROOT NETWORK. A SECOND ORDER BRANCH WITH HELICAL CRACK, PARTIALLY COMPARTMENTALISED HAS AERIAL ROOTS AT WOUND SITE.
26	*Melaleuca bracteata*	Black Tea-tree												TAGGED AS TREE 293 - REFER NOTES FOR TREE 293
27	*Ulmus parvifolia*	Chinese Elm	M	10	0.51	6.1	0.73	2.9	4D	3. LOW	SUITABLE FOR REMOVAL	P	Av	BASAL FLARE. TRUNK FLUTED. EXTENSIVE FAILURE HISTORY. STRUCTURAL FAILURE OF SECOND TRUNK NORTH-WEST. HAZARD BEAM TO NORTH SCAFFOLD. DEAD BRANCHES <20CM IN THICKNESS. BRANCH SHOULD BE REMOVED IF TREE IS TO BE RETAINED.
28	*Toona ciliata*	Red Cedar	M	14	0.45	5.4	0.81	3.0	1A	2.MED	HIGH	Av	Av	OVER STORMWATER DRAIN. PRUNING HISTORY. BASAL FLARE, BUTTRESSING; FLARE WOUNDED EAST AND WEST. TRUNK FLUTED WITH FISSURES; LISP WESTWARDS. TRUNK BOW AND SWEEP AT FIRST BRANCHING JUNCTION. TWIG DIEBACK.
29	*Casuarina glauca*	Swamp She-oak	M	11	0.39	4.7	0.58	2.6	2D	2.MED	MEDIUM	Av	G	FORMS A CLUSTER WITH TREES 30, 31 AND 299. BASAL FLARE. LISP SOUTHWARDS. CO-DOMINANT AT 1M, 28 AND 27CM DBH, ACUTELY CONVERGENT WITH SEAM TO ROOT CROWN. EPICORMIC AT 30CM. CROSSED OVER BRANCH WEST AT ~2M. TWIG DIEBACK.
30	*Casuarina glauca*	Swamp She-oak	M	12	0.37	4.4	0.56	2.6	1B	2.MED	HIGH	G	Av	BASAL FLARE. LATERAL BRANCHING. DEAD BRANCHES <10CM IN THICKNESS.
31	*Casuarina glauca*	Swamp She-oak	M	12	0.37	4.4	0.59	2.7	2D	2.MED	MEDIUM	Av	Av	BASAL FLARE. TRUNK FLUTED WITH FISSURES. LIGNOTUBER ASSOCIATION WITH TREE 299. ACUTE RIB FORMATION AT CENTRAL BRANCH JUNCTION AT 4M. FAILED SCAFFOLD AT 10M. TWIG DIEBACK.

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LEGEND

AGE CLASS	**Y**	**YOUNG** SAPLING/HAS NOT REACHED 1ST ADULT FORM	**SM**	**SEMI-MATURE** DBH < 300mm/APPROACHING FULL HEIGHT	**M**	**MATURE** DBH BET. 300 -700/APPROACH. MAX HT & SPREAD	**OM**	**OVER-MATURE/SENESCENT** LGE DBH, LGE BRANCH FAILURES/STRUCT FAULTS
STRUCTURE	**P**	**POOR** NUMEROUS STRUCTURAL FAULTS/HIGH RISK OF SEVERE FAILURE	**F**	**FAIR** STRUCTURAL FAULTS PRESENT /MODERATE RISK OF SEVERE FAILURE	**Av**	**AVERAGE** SOME MINOR FAULTS /MODERATE RISK FOR MAJOR FAILURE	**Ex**	**EXCELLENT** SOME MINOR FAULTS/LOW-MOD RISK OF MINOR FAILURES
HEALTH	**P**	**POOR** SIG. SIGNS OF LOST VIGOUR EG DIEBACK, REDUCED CANOPY	**F**	**FAIR** SIGNS OF REDUCED VIGOUR EG LEAF UNDER STRESS, STUNTING	**Av**	**AVERAGE** LOCALISED PATCHES OF LOST VIGOUR/NOT WIDESPREAD	**G**	**GOOD** NO EVIDENCE OF STRESS/SIGNS OF NEW GROWTH/WIDESPREAD
RETENTION	**1. TREES TO BE RETAINED**		**2. TREES TO BE REMOVED**		**3. THREATENED TREES**		**4. TREES/PALMS POSSIBLE FOR TRANSPLANTING**	

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32	*Callistemon salignus*	Willow Leaved Bottlebrush	SM	2	0.14	1.7	0.21	1.7	5B	3. LOW	SUITABLE FOR REMOVAL	P	F	ON EDGE OF STORMWATER DRAIN. SECOND TRUNK REMOVED, WEST. LEANS NORTH-EAST. HIGH CANOPY. TWIG DIEBACK. TREE NOW CONSISTS OF BASAL REGROWTH.
33	*Lophostemon confertus*	Brush Box	SM	13	0.30	3.6	0.36	2.2	2D	2.MED	MEDIUM	Av	Av	CLOSE TO EDGE OF STORMWATER DRAIN. PRUNING HISTORY. ELEVATED ROOT PLATE, BASAL FLARE. MULTI-TRUNKED, 26, 12 AND 8CM DBH. LOW BRANCHING.
34	*Pittosporum undulatum*	Sweet Pittosporum / Native Daphne	SM	6	0.10	1.2	0.19	1.6	4G	3. LOW	SUITABLE FOR REMOVAL	P	F	ON EDGE OF STORMWATER DRAIN. PRUNING HISTORY. TRUNK ACUTELY BOWS AND SWEEPS AT 1M. DEAD BRANCHES. NOTE: UNDER THE REQUIREMENTS OF THE *BIOSECURITY ACT, 2015,* THERE IS A GENERAL BIOSECURITY DUTY TO REDUCE THE SPREAD OF THIS TREE SPECIES.
35	*Syzygium paniculatum*	Brush Cherry	M	11	0.37	4.4	0.48	2.4	2D	2.MED	MEDIUM	Av	Av	BASAL FLARE. CO-DOMINANCE FROM THE BASE. MULTI-TRUNKED AT 60CM, 25, 17 AND 21CM DBH. PAST TERMITE ACTIVITY, GALLERIES ALONG SCAFFOLDS, NO CURRENT ACTIVITY.
36	*Eucalyptus saligna*	Sydney Blue Gum	M	23	0.84	10.1	1.32	3.7	1B	1. HIGH	HIGH	G	Av	BASAL FLARE. TRUNK TAPER. SURFACE ROOTS TO A DISTANCE OF 3M. LISP NORTHWARDS. TWIG DIEBACK NORTH. HEALTH DEFICIENCIES SUSPECTED. MID-SIZED HANGERS WITHIN CANOPY.
37	*Backhousia citriodora*	Lemon Scented Myrtle	SM	10	0.26	3.1	0.33	2.1	1B	2.MED	HIGH	G	Av	TRUNK FISSURES. DIRECTIONALLY PRUNED OF LOWER TRUNK SUCKERS. CO-DOMINANT, 27 AND 7CM DBH. DEAD BRANCHES <10CM IN THICKNESS. LOCATED CLOSE TO INTERNAL ROAD.
38	*Acmena smithii*	Lilly Pilly	SM	10	0.27	3.2	0.45	2.4	2D	2.MED	MEDIUM	F	Av	MULTI-TRUNKED X 7, (12, 10, 12, 5, 5, 14, 10CM DBH); ACUTELY CONVERGENT, SOME ANASTOMISING. ROOT CROWN INCLUSIONS. TWIG DIEBACK.
39	*Agonis flexuosa*	Willow Myrtle / Weeping Peppermint	M	12	0.66	7.9	0.87	3.1	4A	3. LOW	SUITABLE FOR REMOVAL	Av	P	ON EDGE OF STORMWATER DRAIN. BASAL FLARE. TRUNK FLUTED WITH FISSURES. MULTI-TRUNKED X 10, 31, 13, 30, 30, 22, 17, 16, 11, 11, 12CM DBH. BRANCHING BOWED SOUTHWARDS. VERY POOR FOLIAGE COVER. APPEARING IN DECLINE. TWIG DIEBACK AND DEAD BRANCHES <20CM IN THICKNESS.
40	*Syagrus romanzoffiana*	Cocos / Queen Palm	SM	8	0.17	2.0	0.28	1.9	4G	3. LOW	SUITABLE FOR REMOVAL	Av	Av	UNDERSTOREY PALM. DEAD FRONDS. NOTE: UNDER THE REQUIREMENTS OF THE *BIOSECURITY ACT, 2015,* THERE IS A GENERAL BIOSECURITY DUTY TO REDUCE THE SPREAD OF THIS PALM SPECIES.
41	*Toona ciliata*	Red Cedar	SM	11	0.32	3.8	0.71	2.9	2D	2.MED	MEDIUM	Av	P	TREE 44 ON 2019 SURVEY. BASAL FLARE, WOUNDED BUTTRESSING SOUTH-EAST. DIFFERENTIATED BARK. HEAD FAILURE. TWIG DIEBACK. HEALTH DEFICIENCIES SUSPECTED. NON-ACTIVE TERMITE GALLERIES PRESENT. MID-SIZED HANGERS PRESENT. DIEBACK IN UPPER CANOPY.
42	*Auranticarpa rhombifolium*	Diamond Leaf Pittosporum	M	11	0.23	2.8	0.28	1.9	3B	3. LOW	SUITABLE FOR REMOVAL	Av	F	ON EDGE OF STORMWATER DRAIN. PRUNING HISTORY. FLUTED. TWIG DIEBACK. PAST VINE INCURSION - HANGING DEAD FROM CANOPY. HIGH CANOPY.
43	*Archontophoenix cunninghamiana*	Bangalow Palm / Piccabeen	SM	6	0.15	1.8	0.32	2.1	5D	2.MED	MEDIUM	F	Av	BASAL FLARE, BOTTLE BUTT. UNEVEN TAPER. SUPPRESSED CANOPY, ASYMMETRICAL.
44	*Melia azedarach*	White Cedar	M	12	0.41	4.92	0.50	2.47	3D	3. LOW	SUITABLE FOR REMOVAL	F	P	TREE 41 ON 2019 SURVEY. PRUNING HISTORY. BASAL FLARE. TWIG AND BRANCH DIEBACK <20CM IN THICKNESS. EXTENSIVE DEFOLIATION CAUSED BY WHITE CEDAR MOTH. REDUCED VIGOUR AND VIABILITY.
45	*Diospyrus kaki*	Persimmon	M	8	0.20	2.4	0.25	1.8	2B	3. LOW	MEDIUM	F	Av	TREE 46 ON 2019 SURVEY. SPECIES IDENTIFIED BY JOHN ATKINS, 2011. CO-DOMINANT TRUNK AT 500MM AT GROUND LEVEL, SUPPRESSED GROWTH.
46	*Castanospermum australe*	Black Bean	M	16	0.30	3.6	0.44	2.3	1B	3. LOW	MEDIUM	G	F	TREE 45 ON 2019 SURVEY. BASAL FLARE. SURFACE ROOTS. POOR FOLIAGE COVER. HIGH EMERGENT CANNOPY PRESENT WITH CLEAR LOWER TRUNK
47	*DEAD TREE*													
48	*Eucalyptus robusta*	Swamp mahogany	M	14	0.38	4.6	0.49	2.5	4D	3. LOW	SUITABLE FOR REMOVAL	F	F	PRUNING HISTORY. PAST TERMITE ACTIVITY, NO CURRENT ACTIVITY. DEAD SCAFFOLD. DAMAGE TO LEADER.
49	*Brachychiton acerifolius*	Illawarra Flame Tree	SM	8	0.24	2.9	0.34	2.1	3A	3. LOW	LOW	F	Av	LOWER TRUNK BOWS TO UPRIGHT EASTWARDS. PAST VINE INCURSION. HIGH CANOPY. SUPPRESSED HEAD, DIVERGENT BRANCHING.
50	*Backhousia myrtifolia*	Grey Myrtle	M	10	0.27	3.24	0.35	2.13	1B	2.MED	HIGH	Av	F	BASAL FLARE. TRUNK FLUTED. LOWER CANOPY TWIG DIEBACK <10CM IN THICKNESS. HEAD BOWS WEST.
51	*Buckinghamia celsissima*	Ivory Curl Tree	SM	10	0.14	1.7	0.24	1.8	1B	2.MED	HIGH	Av	G	MULTI-STEMMED AT 30CM, ACUTE, EPICORMIC, 12, 5, 5CM DBH. LO CATED CLOSE TO BOUNDARY FENCE.
52	*Backhousia myrtifolia*	Grey Myrtle	SM	8	0.14	1.7	0.17	1.6	2A	2.MED	MEDIUM	Av	G	BASAL FLARE. VINE INCLUSION CAUSING BRANCH DEATH. LOW CONVERGENT BRANCHING.

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STRUCTURE	**P**	**POOR** NUMEROUS STRUCTURAL FAULTS/HIGH RISK OF SEVERE FAILURE	**F**	**FAIR** STRUCTURAL FAULTS PRESENT /MODERATE RISK OF SEVERE FAILURE	**Av**	**AVERAGE** SOME MINOR FAULTS /MODERATE RISK FOR MAJOR FAILURE	**Ex**	**EXCELLENT** SOME MINOR FAULTS/LOW-MOD RISK OF MINOR FAILURES

HEALTH	**P**	**POOR** SIG. SIGNS OF LOST VIGOUR EG DIEBACK, REDUCED CANOPY	**F**	**FAIR** SIGNS OF REDUCED VIGOUR EG LEAF UNDER STRESS, STUNTING	**Av**	**AVERAGE** LOCALISED PATCHES OF LOST VIGOUR/NOT WIDESPREAD	**G**	**GOOD** NO EVIDENCE OF STRESS/SIGNS OF NEW GROWTH/WIDESPREAD
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53	*Buckinghamia celsissima*	Ivory Curl Tree	SM	7	0.11	1.3	0.15	1.5	3C	2.MED	LOW	Av	G	PRUNING HISTORY. CO-DOMINANT AT 60CM; 9, 7CM DBH. COMPETING WITH OTHER TREES LOCATED AT CLOSE CENTRES.
54	*Eucalyptus robusta*	Swamp Mahogany	M	11	0.42	5.0	0.58	2.6	4A	3. LOW	SUITABLE FOR REMOVAL	F	P	BASAL FLARE. TRUNK DIFFERENTIATED. HEAD FAILURE WITH BRACKET FUNGAL FRUIT BODY AT POINT OF FAILURE. DEAD AND DAMAGED BRANCHES THROUGHOUT. IN DECLINE. ACTIVE *NASUTITERMES WALKERI* TERMITES.
55	*Eucalyptus tereticornis*	Forest Red Gum	M	20	0.63	7.6	0.79	3.0	1B	2.MED	HIGH	G	F	LARGE DIAMETER DEAD BRANCHES THROUGHOUT >20CM IN THICKNESS. SCAFFOLD BRANCH FAILURE. CROSSED OVER SCAFFOLDS AT 8M. POTENTIALLY HAZARDOUS BRANCHES.
56	*Casuarina cunninghamiana*	River She-Oak	M	17	0.46	5.5	0.82	3.0	2B	2.MED	MEDIUM	G	F	BASAL FLARE. TRUNK FLUTED WITH FISSURES. DEAD BRANCHES <20CM IN THICKNESS THROUGHOUT. ASYMMETRIC CANOPY WITH STORM DAMAGE TO SOUTHERN AND WESTERN CANOPY QUADRANTS
57	*Melaleuca styphelioides*	Prickly Leaved Paperbark	M	15	0.68	8.2	1.03	3.4	2D	2.MED	MEDIUM	G	G	MULTI-STEMMED X 7; 20, 17, 26, 35, 26, 26 AND 25CM DBH, DIVERGENT. CROSSED AND RUBBING BRANCH AT 4M. LOWER CANOPY TWIG DIEBACK.
58	*Melia azedarach*	White Cedar	M	10	0.23	2.8	0.41	2.3	2D	2.MED	MEDIUM	Av	F	BASAL FLARE. STRUCTURAL SURFACE ROOTS TO 1M. LISP EAST. BRANCHING ASYMMETRY. TWIG DIEBACK. EXTENSIVE DEFOLIATION BY WHITE CEDAR MOTH. RECOVERY EXPECTED.
59	*Backhousia myrtifolia*	Grey Myrtle	M	9	0.11	1.3	0.14	1.4	2A	2.MED	MEDIUM	Av	Av	PRUNING HISTORY. TRUNK WOUND. DIVERGENT SCAFFOLD JUNCTION AT 3M. TWIG DIEBACK. PAST VINE INCURSION.
60	*Brachychiton acerifolius*	Flame Tree	SM	10	0.16	1.9	0.25	1.8	2D	2.MED	MEDIUM	G	G	SYMMETRICAL SURFACE ROOT NETWORK. GENTLE BOW AND SWEEP TO HEIGHT.
61	*Corymbia eximia*	Yellow Bloodwood	M	12	0.32	3.8	0.42	2.3	2D	2.MED	MEDIUM	Av	Av	PRUNING HISTORY. ASYMMETRICAL BRANCHING TO THE NORTH. HEAD BOWS. FAILED BRANCH STUBS. PAST TERMITE ACTIVITY, NO CURRENT ACTIVITY.
62	*Syzygium paniculatum*	Brush Cherry	SM	11	0.13	1.6	0.15	1.5	2D	2.MED	MEDIUM	G	F	LOWER TRUNK WOUND, SOUTH. WOUNDED SCAFFOLD AT JUNCTION, WEST. ASYMMETRY, BRANCHING WESTWARDS.
63	*Hymenosporum flavum*	Native Frangipani	M	11	0.17	2.0	0.22	1.8	2A	2.MED	MEDIUM	Av	F	SOUTH SIDE SURFACE ROOTS. TRUNK BOWS NORTH TO 2M. TWIG DIEBACK. CENTRAL BRANCH JUNCTION AT 3M.
64	*Eucalyptus botryoides*	Southern Mahogany/Bangalay	M	13	0.28	3.4	0.37	2.2	3A	3. LOW	LOW	P	F	LEANS SOUTH-WEST. ROOT CROWN WOUND. HELICAL TRUNK WOUND, DEAD AND DISINTEGRATING CORE. DEAD BRANCHES. SCAFFOLD CRACK. BRANCHING EAST. PAST TERMITE ACTIVITY.
65	*Flindersia schotetiana*	Silver Ash	M	11	0.20	2.4	0.27	1.9	1A	2.MED	HIGH	G	G	BASAL FLARE. LOW BRANCHING. LOWER CANOPY TWIG DIEBACK.
66	*Glochidion ferdinandi*	Cheese Tree	SM	9	0.16	1.9	0.21	1.7	2A	2.MED	MEDIUM	Av	Av	BASAL FLARE, FLUTED. ADAPTIVE WOOD AT CENTRAL BRANCH JUNCTION. HANGING BRANCH AT 3M. TWIG DIEBACK SOUTH. ASYMMETRY.
67	*Eucalyptus piperita*	Sydney Peppermint	M	20	0.55	6.6	0.74	2.9	1B	2.MED	HIGH	G	F	STOUT. COMPARTMENTALISED TRUNK SEAMS. CENTRAL BRANCH JUNCTION AT 10M. LARGE DIAMETER DEADWOOD <30CM IN THICKNESS AND TWIG DIEBACK. HEALTH DEFICIENCIES SUSPECTED. POTENTIALLY HAZARDOUS BRANCHES.
68	*Grevillea robusta*	Silky Oak	SM	15	0.33	4.0	0.51	2.5	3B	3. LOW	LOW	Av	F	BASAL FLARE. PAST TERMITE ACTIVITY, NO CURRENT ACTIVITY. BRANCHING NORTH-EAST. TWIG DIEBACK.
69	*Unknown*	Rainforest sp.	SM	7	0.12	1.4	0.19	1.6	3A	3. LOW	LOW	G	P	TRUNK FLUTED. HIGH CANOPY. DEAD BRANCHES AND TWIG DIEBACK. POOR FOLIAGE COVER.
70	*Syzygium paniculatum*	Brush cherry	M	12	0.39	4.7	0.48	2.4	1B	3. LOW	MEDIUM	Av	P	CO-DOMINANT AT 50CM; 34 AND 20CM DBH, INCLUSION. BROAD SPREAD. MINOR FIRE DAMAGED FOLIAGE AND TWIGS, NORTH BROWNED. COMPRESSION CRACK TO NORTH-WEST SCAFFOLD.
71	*Corymbia maculata*	Spotted gum	M	22	0.65	7.8	0.83	3.1	1A	2.MED	HIGH	G	G	BASAL FLARE, FLUTED. BROAD AND BALANCED CANOPY BRANCH DISTRIBUTION.
72	*Corymbia maculata*	Spotted gum	M	19	0.71	8.5	0.80	3.0	1B	2.MED	HIGH	F	F	STOUT. TRUNK FLUTED; FISSURE NORTH-EAST TO JUNCTION. CENTRAL BRANCH JUNCTION AT 2.5M; DIVERGENT AND LENGTHY LEVER ARM, SOUTH-EAST. LARGE DIAMETER DEADWOOD NORTH-EAST. ASYMMETRY. ATYPICAL FORM (NOT UPRIGHT).

1. MULTI TRUNKED TREES HAVE AN AVERAGE MEASUREMENT CALCULATED IN ACCORDANCE WITH AS 4970. 2. MINIMUM DISTANCE ALLOWED 2. DAB = DIAMETER ABOVE BUTTRESS USED WHEN CALCULATING SRZ. 3. SPECIES TO BE CONFIRMED © STARS – IACA 2020

LEGEND

AGE CLASS	**Y**	**YOUNG** SAPLING/HAS NOT REACHED 1ST ADULT FORM	**SM**	**SEMI-MATURE** DBH < 300mm/APPROACHING FULL HEIGHT	**M**	**MATURE** DBH BET. 300 -700/APPROACH. MAX HT & SPREAD	**OM**	**OVER-MATURE/SENESCENT** LGE DBH, LGE BRANCH FAILURES/STRUCT FAULTS
STRUCTURE	**P**	**POOR** NUMEROUS STRUCTURAL FAULTS/HIGH RISK OF SEVERE FAILURE	**F**	**FAIR** STRUCTURAL FAULTS PRESENT /MODERATE RISK OF SEVERE FAILURE	**Av**	**AVERAGE** SOME MINOR FAULTS /MODERATE RISK FOR MAJOR FAILURE	**Ex**	**EXCELLENT** SOME MINOR FAULTS/LOW-MOD RISK OF MINOR FAILURES
HEALTH	**P**	**POOR** SIG. SIGNS OF LOST VIGOUR EG DIEBACK, REDUCED CANOPY	**F**	**FAIR** SIGNS OF REDUCED VIGOUR EG LEAF UNDER STRESS, STUNTING	**Av**	**AVERAGE** LOCALISED PATCHES OF LOST VIGOUR/NOT WIDESPREAD	**G**	**GOOD** NO EVIDENCE OF STRESS/SIGNS OF NEW GROWTH/WIDESPREAD

RETENTION	1. TREES TO BE RETAINED	2. TREES TO BE REMOVED	3. THREATENED TREES	4. TREES/PALMS POSSIBLE FOR TRANSPLANTING

TREE ASSESSMENT TABLE

No	BOTANICAL NAME	COMMON NAME	AGE CLASS	HEIGHT [M]	DBH[1] [MM]	TPZ [M]	DAB[2] [MM]	SRZ [M]	ULE	STARS© SIG. RATING	STARS© RETENT. VALUE	STRUCT	HEALTH	COMMENTS
73	*Brachychiton acerifolius*	Flame Tree	M	10	0.29	3.5	0.38	2.2	2B	2. MED	MEDIUM	Av	F	TWIG DIEBACK. HEAD FORKS INTO 3 AT HEIGHT, SUPPRESSION FROM TREE 72.
74	*Angophora costata*	Smooth Bark Apple	M	16	0.40	4.8	0.57	2.6	1B	2. MED	HIGH	G	F	BASAL FLARE. UPRIGHT STRUCTURE. CENTRAL BRANCH JUNCTION AT 3M. DEAD CENTRAL BRANCH, OTHER LENGTHY DEAD BRANCHES NORTH-NORTH-EAST.
75	*Corymbia gummifera*	Red Bloodwood	M	16	0.41	4.9	0.72	2.9	1B	2. MED	HIGH	Av	F	ELEVATED ROOT PLATE. BASAL FLARE. PAST TERMITE ACTIVITY, NO CURRENT ACTIVITY. HIGH CANOPY. FIRE SCARRED AT BASE OF TREE ONLY. DEAD BRANCHES NORTH.
76	*Elaeocarpus reticulatus*	Blueberry Ash	M	10	0.23	2.8	0.51	2.5	4D	3. LOW	SUITABLE FOR REMOVAL	F	P	SURFACE ROOTS, GIRDLING EAST. MAJOR LOSS OF TREE THROUGH RECENT REMOVAL OF SECONDARY TRUNK AND OTHER BRANCHES. HIGH UPRIGHT CANOPY.
77	*Melaleuca salicina*	White Bottle Brush / Sweet Willow Bottle Brush	SM	9	0.30	3.6	0.62	2.7	1B	2. MED	HIGH	Av	F	BASAL FLARE. MULTI-TRUNKED X 4; 12, 16, 14 AND 17CM DBH. LENGTHY TWIG DIEBACK. CANOPY INTERACTION WITH TREE 78. ASYMMETRIC CANOPY OVERHANGING INTERNAL ROAD.
78	*Eucalyptus globulus*	Southern Blue Gum	M	14	0.86	10.3	1.29	3.7	3D	2. MED	LOW	P	Av	ELEVATED ROOT PLATE, WEST. SUBSIDED, LEANS TO THE NORTH-EAST. HELICAL BARK FORMATIONS. PAST TERMITE ACTIVITY, NO CURRENT ACTIVITY. LENGTHY BRANCHING NORTHWARDS. DEAD BRANCHES SOUTH AND TWIG DIEBACK. WOUNDED AND DAMAGED BRANCHES THROUGHOUT. REDENT (2022) STORM DAMAGE TO UPPER CANOPY WITH DEADWOOD AND HANGERS.
79	*Tristaniopsis laurina*	Water Gum	M	7	0.32	3.8	0.45	2.4	1B	3. LOW	MEDIUM	G	Av	MULTI-TRUNKED X 3; 20, 16 AND 19CM DBH, DIVERGENT. BRANCHING SOUTH. TWIG DIEBACK. ASYMMETIC CANOPY OVERHANGING ROAD VERGE.
80	*Eucalyptus botryoides*	Southern Mahogany/Bangalay	SM	7	0.16	1.9	0.23	1.8	3C	3. LOW	LOW	F	F	LEANS SOUTH. TRUNK BARK DELAMINATING AND EXUDING TO 1M. EPICORMIC LOWER TRUNK. SOUTH SCAFFOLD REMOVED AT 2M. HIGH CANOPY. LOCATED ON BOUNDARY. POOR SPECIMEN.
81	*Corymbia eximia*	Yellow Bloodwood	SM	6	0.14	1.7	0.18	1.6	3C	3. LOW	LOW	F	Av	STRUCTURE BOWS AND SWEEPS. SUPPRESSED HEAD BOWS SOUTHWARDS. UNDER CANOPY OF TREE 83. POOR SPECIMEN WITH LITTLE OPPRTUNITY FOR FUTURE GROWTH UNTIL UPPER CANOPY OPENS UP. SUPRESSED GROWTH
82	*Grevillea robusta*	Silky Oak	SM	12	0.21	2.5	0.30	2.0	4A	3. LOW	SUITABLE FOR REMOVAL	Av	P	BASAL FLARE. LENGTHY SURFACE ROOT EAST TO 3M. BRANCHING SOUTH-EAST. POOR FOLIAGE COVER. SUPPRESSED BY TREE 83.
83	*Eucalyptus punctata*	Grey Gum	M	22	1.03	12.4	1.24	3.6	1B	1. HIGH	HIGH	Av	G	BASAL FLARE. CO-DOMINANT AT 1.5M; 50 AND 89CM DBH, CONVERGENT, INCLUSION WITH RIBS. CANOPY AT 6M WOUNDED BRANCH AT JUNCTION, BIRD SCRIBED AT 8M. FAILED BRANCHES. LOCATED CLOSE TO BOUNDARY. POSSUM SCRATCHED BARK.
84	*Eucalyptus tereticornis*	Forest Red Gum	M	15	0.37	4.4	0.48	2.4	1B	1. HIGH	HIGH	Av	Av	BASAL FLARE. EXUDING LOWER TRUNK SPLITS. LEANS NORTHWARDS. BRANCHING AND HEAD BOWS NORTH-EAST AT 8M. ASYMMETRIC CANOPY.
85	*Acacia elata*	Cedar Wattle	M	12	0.21	2.5	0.33	2.1	2A	2. MED	MEDIUM	Av	Av	BASAL FLARE. TRUNK WITH GENTLE BOW AND SWEEP. PATCHES OF EXUDATIONS ALONG TRUNK WITH FRASS, PATHOGEN ACTIVITY. HEAD BOWS NORTH. POOR SPECIMEN. SUPPRESSED GROWTH.
86	*Casuarina glauca*	Swamp She-Oak	M	20	0.41	4.9	0.66	2.8	4A	3. LOW	SUITABLE FOR REMOVAL	F	P	BASAL FLARE. TRUNK FLUTED, FISSURES. CO-DOMINANT, 32 AND 26CM DBH, FORMING U-SHAPED JUNCTION. TRUNK BOW AND SWEEP TO UPRIGHT AT 3M. LARGE QUANTITY OF DEAD BRANCHES TO 10M. ASYMMETRY. FOLIAGE RESTRICTED TO UPPER CANOPY WITH EXTENSIVE DEADWOOD.
87	*Eucalyptus punctata*	Grey Gum	M	23	0.69	8.3	0.97	3.3	1B	2. MED	HIGH	Av	F	BASAL FLARE. WOUNDED ROOT FLARE NORTH. DIVERGENT SCAFFOLDS AT ~2M. NORTH SCAFFOLD WITH COMPARTMENTALISING COMPRESSION CRACKS. LENGTHY DEADWOOD <20CM IN THICKNESS. LENGTHY, LATERAL BRANCHING NORTHWARDS. GOOD SPECIMEN. LARGE SPECIMEN.
88	*Pittosporum undulatum*	Sweet pittosporum / Native Daphne	M	7	0.19	2.3	0.25	1.8	4G	3. LOW	SUITABLE FOR REMOVAL	Av	F	MULTI-TRUNKED X 3; 12, 12 AND 8CM DBH. RECENT PRUNING. SPORADIC FOLIAGE COVER. BROAD SPREAD. TWIG DIEBACK. DEADWOOD TOWARDS TOP OF CANOPY. NOTE: UNDER THE REQUIREMENTS OF THE *BIOSECURITY ACT, 2015,* THERE IS A GENERAL BIOSECURITY DUTY TO REDUCE THE SPREAD OF THIS TREE SPECIES.
89	*Callistemon sp.*	Red Bottlebrush	M	5	0.22	2.6	0.59	2.7	2D	2.MED	MEDIUM	F	F	MULTI-TRUNKED X 23; 5, 7, 8, 7, 6, 6, 5, 5, 6, 7, 5, 6, 7, + 10 X 4CM DBH, ACUTE. WOUNDED TRUNK, EAST. END WEIGHTED FOLIAGE DISTRIBUTION.

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LEGEND

AGE CLASS	**Y**	**YOUNG** SAPLING/HAS NOT REACHED 1ST ADULT FORM	**SM**	**SEMI-MATURE** DBH < 300mm/APPROACHING FULL HEIGHT	**M**	**MATURE** DBH BET. 300 -700/APPROACH. MAX HT & SPREAD	**OM**	**OVER-MATURE/SENESCENT** LGE DBH, LGE BRANCH FAILURES/STRUCT FAULTS
STRUCTURE	**P**	**POOR**	**F**	**FAIR**	**Av**	**AVERAGE**	**Ex**	**EXCELLENT**

		NUMEROUS STRUCTURAL FAULTS/HIGH RISK OF SEVERE FAILURE		STRUCTURAL FAULTS PRESENT /MODERATE RISK OF SEVERE FAILURE		SOME MINOR FAULTS /MODERATE RISK FOR MAJOR FAILURE		SOME MINOR FAULTS/LOW-MOD RISK OF MINOR FAILURES
HEALTH	**P**	**POOR** SIG. SIGNS OF LOST VIGOUR EG DIEBACK, REDUCED CANOPY	**F**	**FAIR** SIGNS OF REDUCED VIGOUR EG LEAF UNDER STRESS, STUNTING	**Av**	**AVERAGE** LOCALISED PATCHES OF LOST VIGOUR/NOT WIDESPREAD	**G**	**GOOD** NO EVIDENCE OF STRESS/SIGNS OF NEW GROWTH/WIDESPREAD
RETENTION		**1. TREES TO BE RETAINED**		**2. TREES TO BE REMOVED**		**3. THREATENED TREES**		**4. TREES/PALMS POSSIBLE FOR TRANSPLANTING**

TREE ASSESSMENT TABLE

No	BOTANICAL NAME	COMMON NAME	AGE CLASS	HEIGHT [M]	DBH[1] [MM]	TPZ [M]	DAB[2] [MM]	SRZ [M]	ULE	STARS© SIG. RATING	STARS© RETENT. VALUE	STRUCT	HEALTH	COMMENTS
90	*Callistemon citrinus*	Crimson / Lemon Scented Bottlebrush	M	8	0.31	3.7	0.45	2.4	2A	3. LOW	LOW	Av	Av	ON HIGH POINT OF LANDFORM. ELEVATED ROOT PLATE SOUTH-WEST. CO-DOMINANT, 22 AND 22CM DBH, INCLUSION. LEANS NORTH-EAST. NORTH SIDE CROSSED, RUBBING BRANCH AT 3M. TWIG DIEBACK.
91	*Syagrus romanzoffiana*	Cocos / Queen Palm	M	14	0.31	3.7	0.46	2.4	2A	3. LOW	LOW	Av	Av	UNEVEN TAPER. FIRE SCARRED. DEAD FRONDS. NOTE: UNDER THE REQUIREMENTS OF THE *BIOSECURITY ACT, 2015,* THERE IS A GENERAL BIOSECURITY DUTY TO REDUCE THE SPREAD OF THIS PALM SPECIES.
92	*Syagrus romanzoffiana*	Cocos / Queen Palm	M	10	0.31	3.7	0.38	2.2	2A	3. LOW	LOW	Av	Av	UNEVEN TAPER. DEAD FRONDS. NOTE: UNDER THE REQUIREMENTS OF THE *BIOSECURITY ACT, 2015,* THERE IS A GENERAL BIOSECURITY DUTY TO REDUCE THE SPREAD OF THIS PALM SPECIES.
93	*Syagrus romanzoffiana*	Cocos / Queen Palm	M	12	0.34	4.1	0.58	2.6	2A	3. LOW	LOW	Av	Av	ELEVATED ROOT PLATE. SURFACE ROOTS. UNEVEN TAPER. NOTE: UNDER THE REQUIREMENTS OF THE *BIOSECURITY ACT, 2015,* THERE IS A GENERAL BIOSECURITY DUTY TO REDUCE THE SPREAD OF THIS PALM SPECIES.
94	*Hymenosporum flavum*	Native Frangipani	SM	8	0.13	1.6	0.15	1.5	2A	3. LOW	LOW	G	P	CO-DOMINANT AT 1M. DEAD TOP. VERY POOR FOLIAGE COVER. MECHANICAL DAMAGE TO LOWER TRUNK (RECENT – 2022)
95		NO TREE, NOTED ON EARLIER SURVEY												
96	*Platanus x subsp*	London Plane	M	15	0.54	6.5	0.55	2.6	1A	1. HIGH	HIGH	G	G	BASAL FLARE. CENTRAL BRANCH JUNCTION AT 1.5M. NORTH SIDE PRUNING HISTORY. LOCARED ON BOUNDARY.
97	*Zelkova serrata*	Japanese Zelkova	M	7	0.16	1.9	0.32	2.1	4D	2. MED	LOW	P	F	CO-DOMINANT, 14 AND 7CM DBH. ROOT CROWN WOUNDS. DIFFERENTIATED BARK AND COMPARTMENTALISED SPLITS THROUGHOUT STRUCTURE. DAMAGED AND BROKEN BRANCHES. DEADWOOD. ASYMMETRY. SPPRESSED GROWTH DUE TO OVERHANGING CANOPIES.
98	*Harpephylum caffrum*	Kaffir Plum	M	18	0.61	7.3	0.73	2.9	3D	2. MED	LOW	P	F	BASAL FLARE. TRUNK FLUTED, FISSURES. POCKETS OF DIFFERENTIATED, DISCOLOURED AND EXUDING LOWER TRUNK BARK. HELICAL FORMATION TO LOWER TRUNK BARK. ACUTELY CONVERGENT BRANCH STRUCTURE, INCLUSIONS WITH DISCOLOURATION. NORTH-WEST SCAFFOLDS WITH TRANSVERSE WOUNDS. PATHOGEN ACTIVITY.
99	*Syagrus romanzoffiana*	Cocos / Queen Palm	M	12	0.25	3.0	0.34	2.1	4G	3. LOW	LOW	Av	Av	BASAL FLARE. DEAD FRONDS. SUPPRESSED BY TREE 98.
100	*Triadica sebifera*	Chinese Tallow	M	11	0.33	4.0	0.38	2.2	4G	2. MED	LOW	Av	Av	BASAL FLARE. COMPARTMENTALISING TRUNK WOUND, SOUTH. LISP NORTH. END WEIGHTED FOLIAGE. CENTRAL BRANCH JUNCTION AT 3M. TWIG DIEBACK.
101	*Archontophoenix cunninghamiana*	Bangalow Palm / Piccabeen	M	11	0.22	2.6	0.40	2.3	4A	2. MED	LOW	Av	F	ADJOINS COCOS PALM GROUP 240 - 245. SURFACE ROOTS. WEST SIDE TRUNK WOUND BULGES. DEAD FRONDS. HEAD BENDS WESTWARDS. INTERNAL DECAY, DISEASE SUSPECTED.
102	*Olea europaea subsp. cuspidata*	African Olive	J	7	0.12	1.4	0.17	1.6	4G	2. MED	LOW	Av	P	CAMELIA ALONGSIDE. ON FENCE. PRUNING HISTORY. SPORADIC FOLIAGE COVER.
103	*Liquidambar styraciflua*	Liquidambar	M	20	0.55	6.6	0.84	3.1	4C	2. MED	LOW	Av	G	ELEVATED ROOT PLATE. BASAL FLARE. PRUNING HISTORY. LENGTHY INCLUSIONS WITH SHARP RIB FORMATIONS SOME WITH DISCOLOURATION, THROUGHOUT. LOW BRANCHING, NORTHERN PREDOMINANCE. TWIG DIEBACK. LARGE, SPREADING CANOPY. PREVIOUS PRUNING AND REGROWTH.
104	*Olea europaea subsp. cuspidata*	African Olive	OM	11	0.51	6.1	1.16	3.5	4G	2. MED	LOW	F	P	ELEVATED ROOT PLATE. NORTH-EAST SURFACE ROOT TO 2M. ACAULESCENT, MULTI-TRUNKED X 16; 10, 15, 4, 8, 4, 7, 9, 8, 16, 18, 15, 15, 24, 6, 19 AND 9CM DBH. BROAD SPREAD. SPORADIC END WEIGHTED FOLIAGE.
105	*Ulmus sp.*	Elm species	SM	8	0.13	1.6	0.20	1.7	1B	1. HIGH	HIGH	Av	G	TALL, UPRIGHT JUVENILE. PRUNED NORTH. CENTRAL BRANCH JUNCTION AT 3M, ACUTELY CONVERGENT.
106	*Harpephylum caffrum*	Kaffir Plum	M	13	0.54	6.5	1.03	3.4	3D	2. MED	LOW	F	P	ELEVATED ROOT PLATE. BASAL FLARE SOUTH. GIRDLING STRUCTURAL SURFACE ROOT WEST TO 3M AND EAST. DESTABILISED, LEANS NORTH-EAST, BECOMING UPRIGHT. IVY ALONG TRUNK EAST. TWIG DIEBACK TO TOP OF CANOPY. POOR FOLIAGE COVER.
107	*Ulmus parvifolia*	Chinese Elm	M	12	0.47	5.6	0.68	2.8	3D	2. MED	LOW	F	F	BASAL FLARE. ROOT CROWN CAVITIES WITH DECAY, NORTH. CO-DOMINANT, 31 AND 35CM DBH, DIVERGENT, FISSURES. BROAD SPREAD. BRANCH FAILURES. LENGTHY DEADWOOD <20CM IN THICKNESS. ROOT ROT, DISEASE SUSPECTED. CURRENTLY ACTIV\ELY GROWING.
108	*Michelea figo*	Port Wine Magnolia	SM	6	0.30	3.6	0.35	2.1	4G	2. MED	LOW	P	F	ACAULESCENT; 4 X 10CM, 15 AND 5CM DBH. PIMPLE PSYLLID. YELLOWED FOLIAGE. HEALTH DEFICIENCIES SUSPECTED.

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LEGEND

AGE CLASS	**Y**	**YOUNG** SAPLING/HAS NOT REACHED 1ST ADULT FORM	**SM**	**SEMI-MATURE** DBH < 300mm/APPROACHING FULL HEIGHT	**M**	**MATURE** DBH BET. 300 -700/APPROACH. MAX HT & SPREAD	**OM**	**OVER-MATURE/SENESCENT** LGE DBH, LGE BRANCH FAILURES/STRUCT FAULTS
STRUCTURE	**P**	**POOR** NUMEROUS STRUCTURAL FAULTS/HIGH RISK OF SEVERE FAILURE	**F**	**FAIR** STRUCTURAL FAULTS PRESENT /MODERATE RISK OF SEVERE FAILURE	**Av**	**AVERAGE** SOME MINOR FAULTS /MODERATE RISK FOR MAJOR FAILURE	**Ex**	**EXCELLENT** SOME MINOR FAULTS/LOW-MOD RISK OF MINOR FAILURES
HEALTH	**P**	**POOR**	**F**	**FAIR**	**Av**	**AVERAGE**	**G**	**GOOD**

	SIG. SIGNS OF LOST VIGOUR EG DIEBACK, REDUCED CANOPY	SIGNS OF REDUCED VIGOUR EG LEAF UNDER STRESS, STUNTING	LOCALISED PATCHES OF LOST VIGOUR/NOT WIDESPREAD	NO EVIDENCE OF STRESS/SIGNS OF NEW GROWTH/WIDESPREAD
RETENTION	**1. TREES TO BE RETAINED**	**2. TREES TO BE REMOVED**	**3. THREATENED TREES**	**4. TREES/PALMS POSSIBLE FOR TRANSPLANTING**

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109	*Melaleuca leucadendra*	Weeping paperbark	M	16	0.67	8.0	0.73	2.9	2D	2. MED	MEDIUM	F	Av	BASAL FLARE. TRUNK FLUTED, FISSURES. LEANS EASTWARDS. CROSSED OVER SCAFFOLDS AT 3M. ASYMMETRY.
110	*Pittosporum undulatum*	Sweet Pittosporum / Native Daphne	M	8	0.22	2.6	0.32	2.1	4G	3. LOW	LOW	Av	Av	PRUNING HISTORY. ELEVATED ROOT PLATE. SURFACE ROOTS. ROOT CROWN WOUND EAST. LOWER CANOPY BRANCH DIEBACK. NOTE: UNDER THE REQUIREMENTS OF THE *BIOSECURITY ACT, 2015,* THERE IS A GENERAL BIOSECURITY DUTY TO REDUCE THE SPREAD OF THIS TREE SPECIES.
111	*Syzygium luehmannii*	Small Leaved Lillypilly / Creek Satinash / Riberry	SM	8	0.12	1.4	0.17	1.6	5B	3. LOW	LOW	G	Av	BASAL FLARE. SURFACE ROOTS EAST. WOUNDED TRUNK.
112	*Syzygium luehmannii*	Small Leaved Lillypilly / Creek Satinash / Riberry	SM	7	0.13	1.6	0.34	2.1	5B	3. LOW	LOW	Av	F	MULTI-TRUNKED, 9, 6, AND 8CM DBH. UPRIGHT STRUCTURE.
113	*Eucalyptus acmenoides*	White Mahogany	M	18	0.45	5.4	0.55	2.6	3D	3. LOW	LOW	F	F	TRUNK CANKERS. DISCOLOURED BRANCH JUNCTIONS. ASYMMETRY. BRANCHING BOWS NORTH-EAST. DEAD SOUTH SCAFFOLD.
114	*Syncarpia glomulifera*	Turpentine	M	12	0.59	7.1	0.66	2.8	2D	3. LOW	MEDIUM	Av	Av	CO-DOMINANT, 51 AND 29CM DBH, ACUTE, PARTIALLY ANASTOMOSED. INNER CANOPY TWIG DIEBACK. ASYMMETRY. BRANCHING EASTWARDS.
115	*Livistona australis*	Cabbage- Tree Palm							4E	3. LOW	SUITABLE FOR REMOVAL			FALLEN TREE STILL ACTIVELY GROWING WITH SIGNIFICANT SWEEP IN TRUNK DUE TO PHOTOTROPIC CORRECTION.
115		NO TREE, NOTED ON EARLIER SURVEY												
116	*Acmena smithii*	Lillypilly	M	11	0.38	4.6	0.51	2.5	4A	3. LOW	SUITABLE FOR REMOVAL	P	P	ACAULESCENT X 6; 16, 12, 10, 17, 19 AND 16CM DBH. EAST DEAD TRUNK. TERMITE GALLERIES. WOUNDED TRUNKS. SPORADIC END WEIGHTED FOLIAGE. TREE IN DECLINE. 5%-10% CANOPY DENSITY REMAINING.
117	*Livistona australis*	Cabbage Tree Palm	M	10	0.37	4.4	0.76	2.9	5D	2. MED	MEDIUM	F	Av	TRUNK SLIGHTLY BOWED. FROND SUPPRESSION FROM SURROUNDING TREES. BROWNING FRONDS. RETAINED DEAD FRONDS. SALVAGABLE BUT NOT GOOD SPECIMEN.
118	*Hymenosporum flavum*	Native Frangipani	SM	10	0.23	2.8	0.26	1.9	4A	3. LOW	LOW	P	P	PRUNING HISTORY. LEANS SOUTH-EAST. SPORADIC END WEIGHTED, YELLOWED FOLIAGE. DEFICIENCIES SUSPECTED.
119	*Eucalyptus microcorys*	Tallowwood	M	15	0.63	7.6	0.78	3.0	4A	2. MED	LOW	F	P	STOUT. TERMITE GALLERIES THROUGHOUT STRUCTURE. ACTIVE TERMITES (*NASUTITERMES WALKERI*), WITH PARTIAL FAILURE OF NEST IN CENTRAL BRANCH JUNCTION, CAVITY. LARGE QUANTITY OF LARGE DIAMETER DEAD BRANCHES, DIEBACK. THIS TREE HAS BEEN IDNETIFIED AS A HABITAT TREE. THIS TREE WOULD BE SEEN AS A HAZARD TO RESIDENNTS AND USERS OF THE SITE IF REQUIRED TO BE RETAINED.
120	*Archontophoenix cunninghamiana*	Bangalow Palm / Piccabeen	SM	9	0.17	2.0	0.39	2.2	5D	2. MED	MEDIUM	G	G	SURFACE ROOTS. BASAL BULGE, UNEVEN TAPER OF LOWER TRUNK.
121	*Podocarpus elatus*	Brown / Plum Pine	SM	8	0.14	1.7	0.17	1.6	5B	3. LOW	LOW	G	G	TALL, UPRIGHT JUVENILE. CANOPY BEGINS AT 2.5M. LATERAL BRANCHING.
122	*Livistona australis*	Cabbage Tree Palm	M	8	0.33	4.0	0.80	3.0	5D	2. MED	MEDIUM	F	Av	SUBSIDED WEST. ONE FAILED TREE ALONGSIDE.
123	*Archontophoenix cunninghamiana*	Bangalow Palm / Piccabeen	SM	8	0.21	2.5	0.35	2.1	5D	2. MED	MEDIUM	G	G	BASAL FLARE. TALL UPRIGHT JUVENILE.
124	*Eucalyptus grandis*	Rose / Flooded Gum	M	25	1.00	12.0	1.37	3.8	1B	2. MED	HIGH	Av	Av	ELEVATED ROOT PLATE. ENCIRCLING FIG TREE ROOTS FROM TREE 128. DIFFERENTIATED LOWER TRUNK BARK. BURLS AT PRUNING NODES. ANASTOMISING CROSSED BRANCHES WEST AT 8M. DENSE UNDERSTORY.
125	*Archontophoenix cunninghamiana*	Bangalow Palm / Piccabeen	M	11	0.23	2.8	0.28	1.9	5D	2. MED	MEDIUM	G	G	BURIED ROOT CROWN. LOWER TRUNK WOUND NORTH. FORMING A CLUSTER WITH LIKE SPECIES.
126	*Archontophoenix cunninghamiana*	Bangalow Palm / Piccabeen	M	11	0.25	3.0	0.33	2.1	5D	2. MED	MEDIUM	G	G	BASAL FLARE. TALL UPRIGHT JUVENILE.
127	*Archontophoenix cunninghamiana*	Bangalow palm / Piccabeen	M	11	0.24	2.9	0.35	2.1	5D	2. MED	MEDIUM	G	G	BASAL FLARE. TALL UPRIGHT JUVENILE.
128	*Ficus coronata*	Creek / Sandpaper fig	SM	10	0.16	1.9	0.20	1.7	1A	2. MED	HIGH	G	G	HIGH CANOPY. SYMMETRICAL BRANCHING.
129	*Flindersia schotetiana*	Silver ash	SM	13	0.23	2.8	0.33	2.1	1A	2. MED	HIGH	G	G	BASAL FLARE. HIGH CANOPY.

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LEGEND

AGE CLASS	**Y**	**YOUNG** SAPLING/HAS NOT REACHED 1ST ADULT FORM	**SM**	**SEMI-MATURE** DBH < 300mm/APPROACHING FULL HEIGHT	**M**	**MATURE** DBH BET. 300 -700/APPROACH. MAX HT & SPREAD	**OM**	**OVER-MATURE/SENESCENT** LGE DBH, LGE BRANCH FAILURES/STRUCT FAULTS
STRUCTURE	**P**	**POOR** NUMEROUS STRUCTURAL FAULTS/HIGH RISK OF SEVERE FAILURE	**F**	**FAIR** STRUCTURAL FAULTS PRESENT /MODERATE RISK OF SEVERE FAILURE	**Av**	**AVERAGE** SOME MINOR FAULTS /MODERATE RISK FOR MAJOR FAILURE	**Ex**	**EXCELLENT** SOME MINOR FAULTS/LOW-MOD RISK OF MINOR FAILURES

HEALTH	P	POOR SIG. SIGNS OF LOST VIGOUR EG DIEBACK, REDUCED CANOPY	F	FAIR SIGNS OF REDUCED VIGOUR EG LEAF UNDER STRESS, STUNTING	Av	AVERAGE LOCALISED PATCHES OF LOST VIGOUR/NOT WIDESPREAD	G	GOOD NO EVIDENCE OF STRESS/SIGNS OF NEW GROWTH/WIDESPREAD
RETENTION		1. TREES TO BE RETAINED		2. TREES TO BE REMOVED		3. THREATENED TREES		4. TREES/PALMS POSSIBLE FOR TRANSPLANTING

TREE ASSESSMENT TABLE

No	BOTANICAL NAME	COMMON NAME	AGE CLASS	HEIGHT [M]	DBH[1] [MM]	TPZ [M]	DAB[2] [MM]	SRZ [M]	ULE	STARS© SIG. RATING	STARS© RETENT. VALUE	STRUCT	HEALTH	COMMENTS
130	*Schefflera actinophylla*	Queensland umbrella tree	M	10	0.34	4.1	0.70	2.8	4G	3. LOW	SUITABLE FOR REMOVAL	Av	F	ACAULESCENT X 11; 13, 8, 7, 7, 8, 7, 10, 10, 13, 16 AND 10CM DBH. CROSSED OVER TRUNKS.
131	*Castanospermum australe*	Blackbean	SM	7	0.15	1.8	0.19	1.6	2C	2. MED	MEDIUM	Av	Av	BRANCHING AND HEAD BOWS SOUTH.
132	*Schefflera actinophylla*	Queensland umbrella tree	M	9	0.37	4.4	1.01	3.3	4G	3. LOW	SUITABLE FOR REMOVAL	Av	G	ACAULESCENT X 17; 8, 5, 17, 9, 7, 7, 10, 10, 11, 10, 9, 10, 12, 6, 7, 8 AND 9CM DBH.
133	*Banksia spinulosa*	Hairpin Banksia	M	6	0.33	4.0	0.45	2.4	2D	3. LOW	LOW	F	P	CO-DOMINANT, 27 AND 19CM DBH. TRUNK REMOVED NORTH. HAZARD BEAM. DEAD BRANCHES THROUGHOUT.
134	*Aesculus chinensis*	Chinese Horse Chestnut	M	6	0.28	3.4	0.34	2.1	4A	3. LOW	SUITABLE FOR REMOVAL	F	P	SOUTH AND WEST LOWER TRUNK WOUNDS. DEAD BRANCHES <20CM IN THICKNESS. FAILED SCAFFOLD SOUTH AT 1.6M, FAILED HEAD. TREE IN DECLINE.
135	*Pittosporum undulatum*	Sweet pittosporum / Native Daphne	SM	6	0.10	1.2	0.12	1.4	4G	3. LOW	SUITABLE FOR REMOVAL	Av	Av	CO-DOMINANT, 8 AND 6CM, INCLUSION. BRANCHING EASTWARDS.
136	*Backhousia citriodora*	Lemon scented myrtle	SM	8	0.17	2.0	0.21	1.7	2C	3. LOW	MEDIUM	Av	G	MULTI-TRUNKED X 3; 12, 6 AND 10CM DBH, ACUTELY CONVERGENT. DENSELY FOLIATED.
137	*Banksia serrata*	Old man Banksia	SM	8	0.15	1.8	0.21	1.7	3C	3. LOW	LOW	F	Av	LOWER TRUNK WOUNDS NORTH, WITH CRACKS. PRUNING HISTORY. UPRIGHT STRUCTURE.
138	*Banksia integrifolia*	Coastal banksia	SM	7	0.10	1.2	0.18	1.6	3C	3. LOW	LOW	Av	F	TRUNK WOUNDS NORTH. BOW AND SWEEP THROUGHOUT. LOWER CANOPY TWIG DIEBACK.
139	*Syagrus romanzoffiana*	Cocos / Queen palm	M	8	0.26	3.1	0.36	2.2	4G	3. LOW	SUITABLE FOR REMOVAL	F	Av	TRUNK WOUNDS WEST AND EAST. UNEVEN TAPER, THIN CROWNSHAFT AND ROOT CROWN. DEAD FRONDS.
140	*Syagrus romanzoffiana*	Cocos / Queen palm	M	11	0.31	3.7	0.37	2.2	4G	3. LOW	SUITABLE FOR REMOVAL	F	Av	STOUT TRUNK.
141	*Melaleuca quinquenervia*	Broad leaved paperbark	SM	9	0.24	2.9	0.26	1.9	4C	3. LOW	SUITABLE FOR REMOVAL	F	F	MULTI-TRUNKED X 3; 18, 10 AND 12CM DBH, DIVERGENT. BOWS NORTH. EAST BRANCHES WRAP AROUND PALM 143.
142	*Syagrus romanzoffiana*	Cocos Palm/Queen Palm	M	11	0.27	3.2	0.31	2.0	4G	3. LOW	SUITABLE FOR REMOVAL	F	Av	TREE 145 ON 2019 SURVEY. ON EDGE OR DETERIORATING RETAINING WALL. UNEVEN TAPER. DEAD FRONDS.
143	*Syagrus romanzoffiana*	Cocos / Queen palm	M	12	0.31	3.7	0.35	2.1	4G	3. LOW	SUITABLE FOR REMOVAL	F	Av	UNEVEN TAPER. TREE 141 ENVELOPES. DEAD FRONDS.
144	*Schefflera actinophylla*	Queensland umbrella tree	SM	9	0.14	1.7	0.30	2.0	4G	3. LOW	SUITABLE FOR REMOVAL	P	F	ACAULESCENT, 2 X 10CM DBH, INCLUSION WITH RIB. DESTABILISED, LEANS NORTH EAST.
145	*Syagrus romanzoffiana*	Cocos / Queen palm	M	12	0.30	3.6	0.34	2.1	4G	3. LOW	SUITABLE FOR REMOVAL	F	Av	UNEVEN TAPER. DEAD FRONDS.
146	*Archontophoenix cunninghamiana*	Bangalow palm / Piccabeen	SM	11	0.29	3.5	0.78	3.0	5D	2. MED	MEDIUM	F	Av	GROUP OF TWO, 24 AND 17CM DBH. IVY ALONG TRUNK
147	*Archontophoenix cunninghamiana*	Bangalow palm / Piccabeen	SM	8	0.35	4.2	0.81	3.0	5D	2. MED	MEDIUM	F	G	GROUP OF THREE, 24, 17 AND 19CM DBH. LOWER TRUNK WOUNDED TO NORTH MOST TRUNK.
148	*Carotya mytis*	Fishtail Palm	SM	4	0.24	2.9	0.44	2.3	3C	3. LOW	LOW	Av	F	CLUSTER OF 6 RISING FROM SAME ROOT CROWN; 12, 11, 9, 10, 8 AND 9CM DBH. DEAD FRONDS. IVY ALONG TRUNK. THE WHOLE PLANT CONTAINS NEEDLE-LIKE CALCIUM OXALATE CRYSTALS WHICH IF CHEWED OR EATEN CAN PRODUCE A BURNING SENSATION IN THE MOUTH. SKIN CONTACT CAN RESULT IN BURNING, ITCHING AND DERMATITIS
149	*Washingtonia filifera*	American cotton palm	M	12	0.45	5.4	0.69	2.8	5D	2. MED	HIGH	Av	P	FORMING A CLUSTER WITH PALM 150 AND 151. WOUNDED LOWER TRUNK. DENSE RETAINED SKIRT.
150	*Washingtonia filifera*	American cotton palm	M	9	0.44	5.3	0.52	2.5	5D	2. MED	HIGH	Av	P	DENSE RETAINED SKIRT.
151	*Washingtonia filifera*	American cotton palm	M	9	0.46	5.5	0.72	2.9	5D	2. MED	HIGH	Av	P	BASAL FLARE. DENSE RETAINED SKIRT.

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LEGEND

AGE CLASS	Y	YOUNG SAPLING/HAS NOT REACHED 1ST ADULT FORM	SM	SEMI-MATURE DBH < 300mm/APPROACHING FULL HEIGHT	M	MATURE DBH BET. 300 -700/APPROACH. MAX HT & SPREAD	OM	OVER-MATURE/SENESCENT LGE DBH, LGE BRANCH FAILURES/STRUCT FAULTS
STRUCTURE	P	POOR NUMEROUS STRUCTURAL FAULTS/HIGH RISK OF SEVERE FAILURE	F	FAIR STRUCTURAL FAULTS PRESENT /MODERATE RISK OF SEVERE FAILURE	Av	AVERAGE SOME MINOR FAULTS /MODERATE RISK FOR MAJOR FAILURE	Ex	EXCELLENT SOME MINOR FAULTS/LOW-MOD RISK OF MINOR FAILURES
HEALTH	P	POOR SIG. SIGNS OF LOST VIGOUR EG DIEBACK, REDUCED CANOPY	F	FAIR SIGNS OF REDUCED VIGOUR EG LEAF UNDER STRESS, STUNTING	Av	AVERAGE LOCALISED PATCHES OF LOST VIGOUR/NOT WIDESPREAD	Ex	EXCELLENT NO EVIDENCE OF STRESS/SIGNS OF NEW GROWTH/WIDESPREAD
RETENTION		1. TREES TO BE RETAINED		2. TREES TO BE REMOVED		3. THREATENED TREES		4. TREES/PALMS POSSIBLE FOR TRANSPLANTING

TREE ASSESSMENT TABLE

No	BOTANICAL NAME	COMMON NAME	AGE CLASS	HEIGHT [M]	DBH[1] [MM]	TPZ [M]	DAB[2] [MM]	SRZ [M]	ULE	STARS© SIG. RATING	STARS© RETENT. VALUE	STRUCT	HEALTH	COMMENTS
152	*Washingtonia filifera*	American cotton palm	M	15	0.46	5.5	0.81	3.0	5D	2. MED	HIGH	G	G	BASAL FLARE, SLIGHT BULGE ABOVE ROOT CROWN. WOUNDED SURFACE ROOTS.
153	*Syagrus romanzoffiana*	Cocos / Queen Palm	M	9	0.26	3.1	0.49	2.5	4G	3. LOW	SUITABLE FOR REMOVAL	F	Av	ON EDGE OF STORMWATER CHANNEL. SURFACE ROOTS. TRUNK BOWED. SUPPRESSED CANOPY FROM ADJOINING TREES. DEAD FRONDS. NOTE: UNDER THE REQUIREMENTS OF THE *BIOSECURITY ACT, 2015,* THERE IS A GENERAL BIOSECURITY DUTY TO REDUCE THE SPREAD OF THIS PALM SPECIES. NOT SUITABLE FOR RELOCATION.
154	*Corymbia torelliana*	Cadagi	M	11	0.52	6.2	1.04	3.4	4A	2. MED	SUITABLE FOR REMOVAL	P	P	ELEVATED ROOT PLATE. BOTTLE BUTT. DIFFERENTIATED BARK TO LOWER TRUNK. LARGE DIAMETER DEADWOOD. WOUNDED NORTH SCAFFOLD AT JUNCTION. PATHOGEN ACTIVITY, BORER. INTERNAL DECAY SUSPECTED. LARGE DEADWOOD HELD WITHIN CANOPY.
154A	*Acacia sp.*	Wattle	SM	7	0.17	2.04	0.19	1.65	3A	3. LOW	LOW	F	F	GALL WASP WITH CANOPY. BORER PRESENT IN THE LOWER FIRST ORDER BRANCHES. LOCATED CLOSE TO OLD CONCRETE SLAB.
154B	*Corymbia torelliana*	Cadagi	SM	8	0.14	2 (MIN)	0.2	1.68	1A	3. LOW	MEDIUM	G	G	YOUNG, SELF-SOWN TREE. LOCATED CLOSE TO OLD CONCRTE SLAB. COULD DEVELOP INTO A LARGE TREE IF CARE TAKEN IN REMOVING SLAB.
155	*Corymbia torelliana*	Cadagi	M	18	0.71	8.5	0.95	3.2	2D	2. MED	MEDIUM	G	P	ELEVATED ROOT PLATE. TRUNK FLUTED. SHARP RIB AND TRUNK, SOUTH-EAST. STOUT. EXUDING BRANCH JUNCTION AT 8M. SMALL LEAF SIZE. WITH REDUCED CANOPY DENSITY. RUBBING BRANCHES AND HANGERS WITHIN CANOPY.
156	*Corymbia torelliana*	Cadagi	SM	10	0.25	3.0	0.35	2.1	4A	3. LOW	SUITABLE FOR REMOVAL	Av	P	PRUNING HISTORY. SOUTH-EAST TRUNK WOUND, BARK DIFFERENTIATED. SUPPRESSED FROM THE NORTH-EAST. TREE IN DECLINE. APPROXIMATELY 5% OF CANOPY FOLIAGE REMAINS.
157	*Callistemon viminalis*	Weeping Bottlebrush	M	7	0.21	2.5	0.27	1.9	4B	3. LOW	SUITABLE FOR REMOVAL	F	F	IN STORMWATER CHANNEL. ANASTOMISED IVY, EAST, INTO FRAMEWORK. LEANS NORTH-WEST. INFESTED WITH STAR JASMINE CLIMBING THROUGH CANOPY.
158	*Eucalyptus sp.*	Eucalypt	SM	12	0.21	2.5	0.28	1.9	4B	3. LOW	SUITABLE FOR REMOVAL	G	G	ON EDGE OF STORMWATER CHANNEL. SURFACE ROOTS SOUTH. LOWER TRUNK WOUNDS. UPRIGHT, TALL JUVENILE. HIGH CANOPY. SYMMETRICAL BRANCH DISTRIBUTION.
159	*Syagrus romanzoffiana*	Cocos / Queen Palm	M	7	0.29	3.5	0.46	2.4	4G	3. LOW	SUITABLE FOR REMOVAL	Av	Av	BASAL FLARE. ELEVATED ROOT PLATE. EXPOSED ROOTS. DEAD FRONDS. NOTE: UNDER THE REQUIREMENTS OF THE *BIOSECURITY ACT, 2015,* THERE IS A GENERAL BIOSECURITY DUTY TO REDUCE THE SPREAD OF THIS PALM SPECIES. NOT SUITABLE FOR RELOCATION.
159A	*Eucalyptus sp.*	Smooth-barked Gum	SM	12	0.11	2 (MIN)	0.18	1.61	2A	3. LOW	LOW	P	F	CO-DOMINANT TRUNK AT 5M AGL WITH POOR ATTACHMENT WITH LIKELIHOOD OF FAILURE. SUPPRESSED GROWTH FROM SURROUNDING TREES.
160	*Syagrus romanzoffiana*	Cocos / Queen Palm	M	9	0.30	3.6	0.45	2.4	4G	3. LOW	SUITABLE FOR REMOVAL	Av	P	UNEVEN TAPER. SLIM CROWN SHAFT. DEAD FRONDS. FEW LIVING FRONDS. NOTE: UNDER THE REQUIREMENTS OF THE *BIOSECURITY ACT, 2015,* THERE IS A GENERAL BIOSECURITY DUTY TO REDUCE THE SPREAD OF THIS PALM SPECIES. NOT SUITABLE FOR RELOCATION.
161	*Washingtonia filifera*	American Cotton Palm	M	14	0.43	5.2	0.94	3.2	5D	3. LOW	MEDIUM	Av	Av	STOUT BASE, FLARE. ELEVATED ROOT PLATE. DIFFERENTIATED TRUNK BARK SOUTH. DEAD FRONDS.
162	*Livistona australis*	Cabbage Tree Palm	M	11	0.27	3.2	0.69	2.8	4B	3. LOW	SUITABLE FOR REMOVAL	P	Av	ON EDGE OF STORMWATER CHANNEL, WEST. ELEVATED ROOT PLATE. LEANS WEST, CROWNSHAFT UPRIGHT. .STRONG SWEEP IN TRUNK. NOT SUITABLE FOR TRANSPLANTING
163	*Livistona australis*	Cabbage Tree Palm	M	11	0.29	3.5	0.60	2.7	5D	2. MED	MEDIUM	Av	Av	TAPER. CROWNSHAFT BENDS NORTH. RETAINED DEAD FRONDS.
164	*Washingtonia filifera*	American Cotton Palm	M	18	0.54	6.5	0.91	3.2	4B	2. MED	SUITABLE FOR REMOVAL	F	Av	ELEVATED ROOT PLATE. TAPER. CROWNSHAFT BENDS SOUTH-EAST. RETAINED DEAD FRONDS.
165	*Phoenix canariensis*	Canary Island Date Palm	M	9	0.82	9.8	1.38	3.8	4G	2. MED	SUITABLE FOR REMOVAL	Av	Av	ON EDGE OF STORMWATER CHANNEL, WEST. FISHBONE FERN AROUND ROOT PLATE AND LOWER TRUNK TO 2M. DEAD AND YELLOWING FRONDS. DIFFICULT TO SALVAGE DUE TO ACCESS AN PROXIMITY TO WATER CHANNEL.
166	*Livistona australis*	Cabbage Tree Palm	M	11	0.29	3.5	0.63	2.7	5D	2. MED	MEDIUM	Av	Av	GENTLE BOW AND SWEEP ALONG TRUNK LENGTH. CROWNSHAFT BENDS SOUTH.
167	*Eucalyptus piperita*	Sydney Peppermint	SM	14	0.26	3.1	0.64	2.7	3B	3. LOW	LOW	P	P	CO-DOMINANT, 21 AND 15CM DBH. SMALLER TRUNK WITH DELAMINATING BARK FROM ROOT CROWN, ALSO WITH MARGIN RIB AROUND LOWER TRUNK WOUND, BOW AND SWEEP. LEANS WEST. POOR SPECIMEN WITH SUPPRESSED GROWTH AND CANOPY COMPETING WITH HIGHER CANOPIES.
168	*Eucalyptus acmenoides*	White Mahogany	M	11	0.34	4.1	0.41	2.3	3B	3. LOW	LOW	P	P	ON LANDFORM DROP OFF TO THE NORTH. WOUNDED TRUNK, TENSION BARK DELAMINATING. TRUNK BOW AND SWEEP. CANOPY BOWS WESTWARDS AT 4M. DEAD BRANCHES THROUGHOUT <25CM IN THICKNESS. POR SPECIMEN.

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LEGEND

AGE CLASS	**Y**	**YOUNG** SAPLING/HAS NOT REACHED 1ST ADULT FORM	**SM**	**SEMI-MATURE** DBH < 300mm/APPROACHING FULL HEIGHT	**M**	**MATURE** DBH BET. 300 -700/APPROACH. MAX HT & SPREAD	**OM**	**OVER-MATURE/SENESCENT** LGE DBH, LGE BRANCH FAILURES/STRUCT FAULTS
STRUCTURE	**P**	**POOR** NUMEROUS STRUCTURAL FAULTS/HIGH RISK OF SEVERE FAILURE	**F**	**FAIR** STRUCTURAL FAULTS PRESENT /MODERATE RISK OF SEVERE FAILURE	**Av**	**AVERAGE** SOME MINOR FAULTS /MODERATE RISK FOR MAJOR FAILURE	**Ex**	**EXCELLENT** SOME MINOR FAULTS/LOW-MOD RISK OF MINOR FAILURES
HEALTH	**P**	**POOR** SIG. SIGNS OF LOST VIGOUR EG DIEBACK, REDUCED CANOPY	**F**	**FAIR** SIGNS OF REDUCED VIGOUR EG LEAF UNDER STRESS, STUNTING	**Av**	**AVERAGE** LOCALISED PATCHES OF LOST VIGOUR/NOT WIDESPREAD	**G**	**GOOD** NO EVIDENCE OF STRESS/SIGNS OF NEW GROWTH/WIDESPREAD
RETENTION	**1. TREES TO BE RETAINED**		**2. TREES TO BE REMOVED**		**3. THREATENED TREES**		**4. TREES/PALMS POSSIBLE FOR TRANSPLANTING**	

TREE ASSESSMENT TABLE

No	BOTANICAL NAME	COMMON NAME	AGE CLASS	HEIGHT [M]	DBH[1] [MM]	TPZ [M]	DAB[2] [MM]	SRZ [M]	ULE	STARS© SIG. RATING	STARS© RETENT. VALUE	STRUCT	HEALTH	COMMENTS
169	*Eucalyptus piperita*	Sydney Peppermint	M	18	0.67	8.0	0.83	3.1	3B	3. LOW	LOW	Av	F	ON LANDFORM DROP OFF TO THE NORTH. GROUND SURFACE WITH QUANTITIES OF ROOTS. BASAL FLARE. LEANS NORTH-WEST. EXUDING SPLITS TO LOWER TRUNK. LOW LATERAL SCAFFOLD BRANCHING NORTH-NORTH-EAST. LENGTHY TWIG DIEBACK.
170	*Acacia sp.*	Wattle	M	8	0.22	2.6	0.29	2.0	4A	3. LOW	SUITABLE FOR REMOVAL	Av	P	CO-DOMINANT, 18 AND 13CM DBH. LEANS NORTHWARDS. BROKEN OUT HEAD AND BRANCHES THROUGHOUT. LENGTHY COMPARTMENTALISED TENSION CRACK TO NORTHERN TRUNK.
171	*Ceratopetalum gummiferum*	NSW Christmas Bush	SM	4	0.11	1.3	0.13	1.4	5A	3. LOW	LOW	F	F	CO-DOMINANT, 9 AND 6CM DBH, DIVERGENT. IVY ALONG TRUNK AND INTO STRUCTURE.
172	*Ceratopetalum gummiferum*	NSW Christmas Bush	SM	4	0.06	0.7	0.10	1.3	5A	3. LOW	LOW	F	F	KINKED LOWER TRUNK. DEAD SCAFFOLD WEST. TWIG DIEBACK.
173	*Callistemon citrinus*	Lemon-scented Bottlebrush	SM	3	0.16	1.9	0.19	1.6	5A	3. LOW	LOW	F	F	MULTI-TRUNKED X 3; 13, 5 AND 8CM DBH. IVY ALONG LOWER TRUNK. LARGE QUANTITY OF DEAD BRANCHES. BROKEN HEAD.
174	*Corymbia torelliana*	Cadagi	M	20	0.54	6.5	0.69	2.8	1B	1. HIGH	HIGH	Av	Av	ALONGSIDE FAILED TREE, EAST. DIFFERENTIATED TRUNK BARK, PATCHES OF EXUDATION. WEST SIDE TRUNK WOUND WITH MARGIN RIB. LISP AND BRANCHING DOMINANCE NORTHWARDS. FAILED BRANCHES EAST.
175	*Stenocarpus sinuatus*	Firewheel Tree	M	10	0.27	3.2	0.34	2.1	2A	2. MED	MEDIUM	F	Ex	MULTI-TRUNKED; 24, 9 AND 7CM DBH, ACUTELY CONVERGENT, ANASTOMISED. EAST TRUNK FAILURE, TEAROUT WOUND AT INCLUSION, MARGIN RIB.
176	*Casuarina glauca*	Swamp She-Oak	OM	21	0.72	8.6	0.77	3.0	3D	2. MED	LOW	Av	F	CO-DOMINANT, 67 AND 26CM DBH. BASAL FLARE. TRUNK FLUTED. SLIGHT LEAN NORTH. BRANCH DOMINANCE TO THE NORTH-WEST. DEAD BRANCHES <20CM IN THICKNESS THROUGHOUT.
177	*Pittosporum undulatum*	Sweet Pittosporum / Native Daphne	SM	8	0.16	1.9	0.23	1.8	4G	3. LOW	SUITABLE FOR REMOVAL	Av	Av	BASAL FLARE. SURFACE ROOTS, WESTWARDS. LISP SOUTH-WEST. BROKEN BRANCHES NORTH. BROAD SPREAD. NOTE: UNDER THE REQUIREMENTS OF THE *BIOSECURITY ACT, 2015,* THERE IS A GENERAL BIOSECURITY DUTY TO REDUCE THE SPREAD OF THIS TREE SPECIES.
178	*Eucalyptus robusta*	Swamp Mahogany	SM	10	0.15	1.8	0.18	1.6	5B	2. MED	MEDIUM	Av	Av	LEAN SOUTH-WEST. HEAD BOWED. SUPPRESSED BY TREE 179. HIGH CANOPY, BEGINS AT 6M.
179	*Lophostemon confertus*	Brush Box	SM	13	0.30	0.5	0.49	2.5	1A	2. MED	HIGH	G	G	BASAL FLARE. TWIG DIEBACK. TRUNK WITH LEAN TO SOUTH.
180	*Grevillea robusta*	Silky Oak	M	17	0.45	5.4	0.68	2.8	2A	2. MED	MEDIUM	Av	F	BASAL FLARE. TRUNK BOWS AT 7M. ASYMMETRY. FAILED SCAFFOLD NORTH-EAST. TWIG DIEBACK. ASYMMETRIC GROWTH DUE TO COMPETITION FROM NEARBY TREES.
181	*Eucalyptus sp.*	Gum Tree	M	18	0.48	5.8	0.62	2.7	1B	3. LOW	MEDIUM	Av	Av	CO-DOMINANT, 45 AND 18CM DBH. DEAD SCAFFOLD EAST AT 1M, ANOTHER NORTH. EPICORMIC TO HIGH CANOPY BRANCHES.
182	*Eucalyptus robusta*	Swamp Mahogany	M	11	0.62	7.4	0.61	2.7	1B	3. LOW	MEDIUM	Av	G	ALONGSIDE SIGNAGE. ELEVATED ROOT PLATE SOUTH-WEST. MULTI-TRUNKED; 52, 25, 17 AND 16CM DBH. PRUNING HISTORY. CROSSED SCAFFOLD TO THE EAST AT 2M. LOW BRANCHING. TWIG DIEBACK. UNCHECKED GROWTH HABIT. POOR SPECIMEN. EXTENSIVE EPICORMIC GROWTH.
183	*Eucalyptus punctata*	Grey Gum	M	22	0.50	6.0	0.63	2.7	2A	3. LOW	MEDIUM	G	F	BASAL FLARE. DIFFERENTIATED TRUNK BARK, EXUDING PATCHES. CENTRAL BRANCH JUNCTION AT 8M. DEAD SCAFFOLD WEST AT 6M AND NORTH-WEST AT 8M. POTENTIALLYT HAZARDOUS.
184	*Callistemon sp.*	Bottlebrush	SM	5	0.19	2.3	0.28	1.9	2D	2. MED	MEDIUM	Av	P	MULTI-TRUNKED X 10; 8, 9, 6, 5, 6, 5, 5, 5, 3 AND 4CM DBH. TWIG DIEBACK EAST.
185	*Corymbia gummifera*	Red Bloodwood	SM	6	0.24	2.9	0.36	2.2	5C	2. MED	MEDIUM	P	G	BASAL FLARE. TRUNK BOWED, HELICAL, WEST TO 1M THEN CO-DOMINANT, 20 AND 14CM DBH. EPICORMIC THROUGHOUT. SUBJECT TO POWER LINE CLEARANCE PRUNING, TOPPED AND LOPPED. POOR SPECIMEN WITH EXTENSIVE EPICORMIC GROWTH.
186	*Eucalyptus punctata*	Grey Gum	M	10	0.74	8.9	0.92	3.2	4C	3. LOW	LOW	P	G	BASAL FLARE. TERMITE GALLERIES ALONG TRUNK, NO CURRENT ACTIVITY. FAILED TRUNK AT ~3M WITH BRACKET FUNGAL FRUIT BODY, WEST ON DEADWOOD. EPICORMIC. DIVERGENT SCAFFOLDS. POTENTIALLY HAZARDOUS TREE.
187	*Corymbia maculata*	Spotted Gum	SM	14	0.30	3.6	0.41	2.3	5C	3. LOW	LOW	Av	Av	BASAL WOUND EAST, APEX ACUTE, DISCOLOURED AND EXUDING, MARGIN RIBS; SYMPTOMATIC OF ROOT DISEASE (*ARMILLARIA LUTEOBUBALINA*). SUBJECT TO POWER LINE CLEARANCE PRUNING WESTWARDS. ASYMMETRY. HIGH BRANCHING. CAVITY AT FAILED SCAFFOLD WEST AT 12M.
188	*Eucalyptus punctata*	Grey Gum	M	23	0.59	7.1	0.73	2.9	5C	3. LOW	LOW	Av	F	BASAL FLARE. SUBJECT TO POWER LINE CLEARANCE PRUNING WESTWARDS. DELAMINATING TRUNK BARK DIFFERENTIATED NORTH-WEST. BULGE AT CENTRAL BRANCH JUNCTION AT 4M, ADAPTIVE WOOD. HIGH BRANCHING. TWIG DIEBACK. BRANCHES REMOVED TO AVOID POWER LINES.

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LEGEND

AGE CLASS	Y	YOUNG SAPLING/HAS NOT REACHED 1ST ADULT FORM	SM	SEMI-MATURE DBH < 300mm/APPROACHING FULL HEIGHT	M	MATURE DBH BET. 300 -700/APPROACH. MAX HT & SPREAD	OM	OVER-MATURE/SENESCENT LGE DBH, LGE BRANCH FAILURES/STRUCT FAULTS
STRUCTURE	P	POOR NUMEROUS STRUCTURAL FAULTS/HIGH RISK OF SEVERE FAILURE	F	FAIR STRUCTURAL FAULTS PRESENT /MODERATE RISK OF SEVERE FAILURE	Av	AVERAGE SOME MINOR FAULTS /MODERATE RISK FOR MAJOR FAILURE	Ex	EXCELLENT SOME MINOR FAULTS/LOW-MOD RISK OF MINOR FAILURES
HEALTH	P	POOR SIG. SIGNS OF LOST VIGOUR EG DIEBACK, REDUCED CANOPY	F	FAIR SIGNS OF REDUCED VIGOUR EG LEAF UNDER STRESS, STUNTING	Av	AVERAGE LOCALISED PATCHES OF LOST VIGOUR/NOT WIDESPREAD	G	GOOD NO EVIDENCE OF STRESS/SIGNS OF NEW GROWTH/WIDESPREAD
RETENTION	1. TREES TO BE RETAINED		2. TREES TO BE REMOVED		3. THREATENED TREES		4. TREES/PALMS POSSIBLE FOR TRANSPLANTING	

TREE ASSESSMENT TABLE

No	BOTANICAL NAME	COMMON NAME	AGE CLASS	HEIGHT [M]	DBH[1] [MM]	TPZ [M]	DAB[2] [MM]	SRZ [M]	ULE	STARS© SIG. RATING	STARS© RETENT. VALUE	STRUCT	HEALTH	COMMENTS
189	*Grevillea robusta*	Silky Oak	M	21	0.45	5.4	0.62	2.7	1B	2. MED	HIGH	Av	F	ON HIGH POINT OF LANDFORM. BASAL FLARE. ASYMMETRY. BRANCHING DOMINANCE NORTH-NORTH-EAST. TWIG DIEBACK AND DEADWOOD <20CM IN THICKNESS.
190	*Melaleuca bracteata*	Black Tea-tree	SM	8	0.24	2.9	0.43	2.3	4A	3. LOW	SUITABLE FOR REMOVAL	F	P	MULTI-TRUNKED X 4; 15, 12, 10 AND 11CM DBH. BOWS EASTWARDS. END WEIGHTED FOLIAGE DISTRIBUTION. SPPRESSED GROWTH. POOR SPECIMEN.
191	*Araucaria bidwillii*	Bunya pine	SM	11	0.24	2.9	0.36	2.2	1A	1. HIGH	HIGH	Ex	Ex	BASAL FLARE. DENSE FOLIAGE AND LOW BRANCHING. SUPPRESSED BY ADJOINING TREE 192.
192	*Eucalyptus robusta*	Swamp mahogany	SM	13	0.36	4.3	0.41	2.3	3C	3. LOW	LOW	Av	F	SUBJECT TO POWER LINE CLEARANCE PRUNING WESTWARDS. CO-DOMINANT AT 2M. HISTORIC IVY INCURSION. POOR SPECIMEN. EXTENSIVE EPICORMIC GROWTH.
193	*Araucaria heterophylla*	Norfolk Island pine	M	16	0.37	4.4	0.47	2.4	1B	1. HIGH	HIGH	Av	F	SURFACE ROOTS DOWNSLOPE, EAST, WOUNDED. SPOTS OF RESIN EXUDING ALONG TRUNK. DEAD BRANCHES NORTH AND EAST. LEAN TO NORTH.
194	*Araucaria cunninghamii*	Hoop pine	M	16	0.57	6.8	0.82	3.0	1A	1. HIGH	HIGH	Av	G	ELEVATED ROOT PLATE. SURFACE ROOTS WOUNDED TO 3M. TRUNK BOWS TO UPRIGHT. IVY ALONG TRUNK. TWIG DIEBACK NORTH-EAST.
195	*Grevillea robusta*	Silky Oak	M	14	0.53	6.4	0.89	3.2	4D	3. LOW	SUITABLE FOR REMOVAL	F	F	ON EDGE OF LANDFORM DROP OFF TO THE NORTH-EAST. BASAL FLARE, WOUNDED, CO-DOMINANT, 40 AND 35CM DBH, INCLUSION. SOUTH-EAST TRUNK WITH BOW AND SWEEP, INSIDE WOUND, CAVITY AT POINT OF ATTACHMENT WITH MARGIN RIBS. PAST IVY INCURSION.
196	*Casuarina glauca*[4.]	Swamp She-oak	M	11	0.36	4.3	0.51	2.5	4A	3. LOW	SUITABLE FOR REMOVAL	G	P	BASAL FLARE. TRUNK FLUTED, FISSURES. LOWER CANOPY DEAD BRANCHES.
197	*Casuarina glauca*[4.]	Swamp She-oak	M	15	0.26	3.1	0.34	2.1	2D	3. LOW	MEDIUM	G	F	ON EDGE OF LANDFORM DROP OFF TO THE NORTH. FORMS A GROVE OF LIKE SPECIES TO TREE 202. BASAL FLARE. SPORADIC FOLIAGE COVER. TWIG DIEBACK.
198	*Casuarina glauca*[4.]	Swamp She-oak	M	16	0.43	5.2	0.48	2.4	2D	3. LOW	MEDIUM	Av	F	ON EDGE OF LANDFORM DROP OFF TO THE NORTH. TRUNK FLUTED, FISSURES. CO-DOMINANT, 33 AND 27CM DBH, DIVERGENT. LISP NORTH. TWIG DIEBACK AND DEAD BRANCHES <10CM IN THICKNESS.
199	*Casuarina glauca*[4.]	Swamp She-oak	M	15	0.31	3.7	0.93	3.2	2D	3. LOW	MEDIUM	Av	F	LIGNOTUBER TRUNKS X 4; 18, 15, 15 AND 14CM DBH. DEAD BRANCHES <10CM IN THICKNESS.
200	*Casuarina glauca*[4.]	Swamp She-oak	M	16	0.23	2.8	0.37	2.2	2D	3. LOW	MEDIUM	G	F	BASAL FLARE. TRUNK FLUTED, FISSURES. CENTRAL BRANCHING JUNCTION AT 6M. DEAD BRANCHES <20CM IN THICKNESS.
201	*Casuarina glauca*[4.]	Swamp She-oak	M	10	0.16	1.9	0.23	1.8	2D	3. LOW	MEDIUM	F	F	LOWER TRUNK BOWS TO UPRIGHT AT 1M. DEAD BRANCHES.
202	*Casuarina glauca*[4.]	Swamp She-oak	M	11	0.28	3.4	0.34	2.1	2D	3. LOW	MEDIUM	G	F	DIFFERENTIATED AND DISCOLOURATION TO LOWER TRUNK. ASYMMETRY.
203	*Casuarina glauca*[4.]	Swamp She-oak	M	15	0.53	6.4	0.62	2.7	1B	3. LOW	MEDIUM	Av	Av	BASAL FLARE. TRUNK FLUTED, FISSURES. STOUT. DEAD LOWER BRANCHES. FAILED BRANCHES.
204	*Acer negundo*[4.]	Swamp She-oak	SM	6	0.17	2.0	0.26	1.9	3C	3. LOW	LOW	F	G	GROWTH ASSOCIATION WITH TREE 205. CO-DOMINANT, 14 AND 10CM DBH. BOWS NORTHWARDS.
205	*Acer negundo*[4.]	Swamp She-oak	M	10	0.55	6.6	1.12	3.5	1B	2. MED	HIGH	Av	G	MULTI-TRUNKED X 7; 18, 18, 13, 19, 11, 38 AND 18CM DBH. BASAL FLARE. LOW BRANCHING. BROAD SPREAD. LENGTHY INNER CANOPY DEAD BRANCHES.
206	*Casuarina glauca*	Swamp She-oak	M	12	0.32	3.8	0.39	2.2	1B	2. MED	HIGH	G	F	ON LANDFORM DROP OFF TO THE EAST. ISOLATED. BASAL FLARE. TRUNK FLUTED, FISSURES. LOW BRANCHING. REDUCED CANOPY.
207	*Casuarina glauca*	Swamp She-oak	M	15	0.40	4.8	0.84	3.1	2D	2. MED	MEDIUM	F	F	MULTI-TRUNKED X 4; 23, 21, 23 AND 10CM DBH. ANASTOMISED NORTH TRUNKS. DIFFERENTIATED BARK TO SOUTH SCAFFOLD. TWIG DIEBACK. LOCATED COSE TO RETAINING WALL.
208	*Leptospermum petersonii*	Lemon Scented Tea Tree	M	6	0.43	5.2	1.74	4.2	3A	3. LOW	LOW	Av	Av	FORMS A ROW TO TREE 214, ON EDGE OF LANDFORM DROP OFF. PARTIALLY COLLAPSED RETAINING WALL TO THE NORTH-EAST. MULTI-TRUNKED X 10; 10, 21, 10, 10, 21, 8, 15, 8, 5, 8, 13 AND 8CM DBH. MALLEE FORM, DIVERGENT TRUNKS. FAILED SCAFFOLD NORTH. BROAD SPREAD. TWIG DIEBACK.
209	*Callistemon citrinus hybrid*	'Little John'	M	3	0.54	6.5	0.84	3.1	1B	3. LOW	MEDIUM	Av	AV	MULTI-TRUNKED X 20 ALL ~12CM DBH, DIVERGENT. MALLEE FORM. BOWED STRUCTURE. EPICORMIC ALONG BRANCH LENGTHS.
210	*Callistemon citrinus hybrid*	'Little John'	M	3	0.54	6.5	0.78	3.0	1B	3. LOW	MEDIUM	Av	AV	SHOWN AS TREE 211 ON THE 2019 SURVEY. MALLEE FORM. EPICORMIC ALONG BRANCH LENGTHS. WOUNDED SCAFFOLD NORTH-EAST.

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LEGEND

AGE CLASS	Y	YOUNG – SAPLING/HAS NOT REACHED 1ST ADULT FORM	SM	SEMI-MATURE – DBH < 300mm/APPROACHING FULL HEIGHT	M	MATURE – DBH BET. 300 -700/APPROACH. MAX HT & SPREAD	OM	OVER-MATURE/SENESCENT – LGE DBH, LGE BRANCH FAILURES/STRUCT FAULTS
STRUCTURE	P	POOR – NUMEROUS STRUCTURAL FAULTS/HIGH RISK OF SEVERE FAILURE	F	FAIR – STRUCTURAL FAULTS PRESENT /MODERATE RISK OF SEVERE FAILURE	Av	AVERAGE – SOME MINOR FAULTS /MODERATE RISK FOR MAJOR FAILURE	Ex	EXCELLENT – SOME MINOR FAULTS/LOW-MOD RISK OF MINOR FAILURES
HEALTH	P	POOR – SIG. SIGNS OF LOST VIGOUR EG DIEBACK, REDUCED CANOPY	F	FAIR – SIGNS OF REDUCED VIGOUR EG LEAF UNDER STRESS, STUNTING	Av	AVERAGE – LOCALISED PATCHES OF LOST VIGOUR/NOT WIDESPREAD	G	GOOD – NO EVIDENCE OF STRESS/SIGNS OF NEW GROWTH/WIDESPREAD
RETENTION	1. TREES TO BE RETAINED		2. TREES TO BE REMOVED		3. THREATENED TREES		4. TREES/PALMS POSSIBLE FOR TRANSPLANTING	

TREE ASSESSMENT TABLE

No	BOTANICAL NAME	COMMON NAME	AGE CLASS	HEIGHT [M]	DBH[1] [MM]	TPZ [M]	DAB[2] [MM]	SRZ [M]	ULE	STARS© SIG. RATING	RETENT. VAUE	STRUCT	HEALTH	COMMENTS
211	*Callistemon citrinus hybrid*	'Little John'	M	3	0.54	6.5	0.81	3.0	1B	3. LOW	MEDIUM	Av	AV	SHOWN AS TREE 212 ON THE 2019 SURVEY. TRUNK WOUND WEST.
212	*Pittosporum undulatum*	Sweet Pittosporum	SM	8	0.17	2.0	0.34	2.1	4G	3. LOW	SUITABLE FOR REMOVAL	F	F	SHOWN AS TREE 213 ON THE 2019 SURVEY. CO-DOMINANT, 15 AND 7CM DBH. FAILED HEAD. SUBSIDED WEST. NOTE: UNDER THE REQUIREMENTS OF THE *BIOSECURITY ACT, 2015,* THERE IS A GENERAL BIOSECURITY DUTY TO REDUCE THE SPREAD OF THIS TREE SPECIES.
213	*Pittosporum undulatum*	Sweet Pittosporum	M	8	0.27	3.2	0.26	1.9	4G	3. LOW	SUITABLE FOR REMOVAL	Av	P	SHOWN AS TREE 214 ON THE 2019 SURVEY. MULTI-TRUNKED X 7; 14, 12, 10, 10, 10, 8 AND 7CM DBH. SOUTH SIDE PARTIALLY DEAD. DEAD WOOD THROUGHOUT. NOTE: UNDER THE REQUIREMENTS OF THE *BIOSECURITY ACT, 2015,* THERE IS A GENERAL BIOSECURITY DUTY TO REDUCE THE SPREAD OF THIS TREE SPECIES.
214	*Pittosporum undulatum*	Sweet Pittosporum	SM	7	0.19	2.3	0.32	2.1	4G	3. LOW	SUITABLE FOR REMOVAL	Av	Av	SHOWN AS TREE 215 ON THE 2019 SURVEY. MULTI-TRUNKED X 7; 6, 8, 9, 8, 5, 6 AND 6CM DBH. PRUNING HISTORY. BRANCHING WEST. TWIG DIEBACK AND DEADWOOD THROUGHOUT. PSYLLID AFFECTED. NOTE: UNDER THE REQUIREMENTS OF THE *BIOSECURITY ACT, 2015,* THERE IS A GENERAL BIOSECURITY DUTY TO REDUCE THE SPREAD OF THIS TREE SPECIES.
215	*Corymbia maculata*	Spotted Gum	SM	8	0.13	1.6	0.20	1.7	1A	3. LOW	MEDIUM	G	G	ON HIGH POINT OF LANDFORM. BASAL FLARE. CENTRAL BRANCH JUNCTION AT 4M.
216	*Corymbia gummifera*	Red Bloodwood	M	11	0.46	5.5	0.70	2.8	4C	3. LOW	SUITABLE FOR REMOVAL	P	P	SUBJECT TO POWER LINE CLEARANCE PRUNING NORTH. EPICORMIC REGROWTH. SECOND TRUNK REMOVED EAST AT ROOT CROWN, CAVITY. ROOT CROWN CAVITY SOUTH-EAST. HEAD FAILURE AT CENTRAL BRANCH JUNCTION AT 6M. FAILED SCAFFOLD EAST AT 5M, TEAROUT WOUND, MARGIN RIBS.
217	*Eucalyptus punctata*	Grey Gum	SM	15	0.24	2.9	0.32	2.1	3D	3. LOW	LOW	Av	P	IMPACT WOUNDS TO LOWER TRUNK, BARK STRIPPED. BROKEN OUT BRANCHES. END WEIGHTED FOLIAGE. UPRIGHT SCAFFOLD RUBBING ONTO TREE 218 AT 10M.
218	*Angophora costata*	Smooth Bark Apple	M	16	0.61	7.3	0.92	3.2	1B	1. HIGH	HIGH	Av	Av	ELEVATED ROOT PLATE. LISP EAST. LOW BRANCHING AT 2M, DIVERGENT. LENGTHY DEADWOOD <10CM IN THICKNESS THROUGHOUT. HEAVY END-WEIGHTED BRANCHES.
219	*Pittosporum undulatum*	Sweet Pittosporum	SM	8	0.16	1.9	0.30	2.0	4G	3. LOW	SUITABLE FOR REMOVAL	F	Av	UNDERSTORY TREE. CO-DOMINANT, 12 AND 11CM DBH. NOTE: UNDER THE REQUIREMENTS OF THE *BIOSECURITY ACT, 2015,* THERE IS A GENERAL BIOSECURITY DUTY TO REDUCE THE SPREAD OF THIS TREE SPECIES.
220	*Eucalyptus punctata*	Southern Mahogany/Bangalay	M	16	0.58	7.0	0.81	3.0	4D	3. LOW	SUITABLE FOR REMOVAL	F	F	STOUT. U-SHAPED SCAFFOLD JUNCTION AT 4M. FAILED SCAFFOLDS <50CM IN THICKNESS. EAST SCAFFOLD WITH HELICAL WOUND, EAST WITH BRACKET FUNGAL FRUIT BODY. COMPRESSION CRACK TO WEST SCAFFOLD. TWIG DIEBACK.
221	*Afrocarpus falcatus*	Yellowwood	M	7	0.43	5.2	0.49	2.5	2A	3. LOW	MEDIUM	Av	Av	MULTI-TRUNKED X 6; 31, 15, 13, 17, 10 AND 10CM DBH. LOPPED WITH AGED EPICORMIC REGROWTH. LOW BRANCHING. CROSSED OVER BRANCHES.
222	*Callitris rhomboidea*	Port Jackson Pine	M	14	0.37	4.4	0.53	2.5	4A	3. LOW	SUITABLE FOR REMOVAL	Av	F	FORMS A ROW WITH TREES 223 AND 224. SUBJECT TO POWER LINE CLEARANCE PRUNING SOUTH-EAST. MULTI-TRUNKED X 17; 7 X 11 AND 10 X 7CM DBH. SOUTH SIDE LARGELY DEAD.
223	*Callitris rhomboidea*	Port Jackson Pine	M	7	0.56	6.7	0.32	2.1	4A	3. LOW	SUITABLE FOR REMOVAL	Av	F	SUBJECT TO POWER LINE CLEARANCE PRUNING SOUTH-EAST. MULTI-TRUNKED ALL ANASTOMISED. SOUTH SIDE LARGELY DEAD.
224	*Callitris rhomboidea*	Port Jackson Pine	M	10	0.60	7.2	0.45	2.4	5C-4A	3. LOW	SUITABLE FOR REMOVAL	Av	F	SUBJECT TO POWER LINE CLEARANCE PRUNING SOUTH-EAST. MULTI-TRUNKED ALL ANASTOMISED. SOUTH SIDE LARGELY DEAD.
225	*Thuja sp.*	Arborvitae	M	14	0.88	10.6	0.97	3.3	1B	3. LOW	MEDIUM	Av	Av	SURFACE ROOT NORTH-WEST. MULTI-TRUNKED, LARGER TRUNKS ANASTOMISED. DEAD SECTION SOUTH-WEST.
226	*Camellia sasanqua*	Camelia	SM	6	0.36	4.3	0.49	2.5	1B	3. LOW	MEDIUM	F	G	MULTI-TRUNKED, 20 X 8CM DBH, DIVERGENT. INNER CANOPY DEADWOOD.
227	*Camellia sasanqua*	Camelia	SM	7	0.25	3.0	0.47	2.4	1B	3. LOW	MEDIUM	F	F	MULTI-TRUNKED, 8 X 10CM DBH, ACUTE. DEAD FOLIAGE AND BRANCHES.
228	*Cupressus macrocarpa 'Aurea Saligna'*	Weeping Golden Cypress	M	10	0.85	10.2	1.06	3.4	4D	2. MED	SUITABLE FOR REMOVAL	P	G	MULTI-TRUNKED X 9; 54, 36, 34, 28, 11, 12, 17, 12 AND 20CM DBH. DEAD TRUNKS WEST. PARTIALLY FAILED TO THE EAST. VINE INCURSION THROUGHOUT.

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LEGEND

AGE CLASS	Y	YOUNG SAPLING/HAS NOT REACHED 1ST ADULT FORM	SM	SEMI-MATURE DBH < 300mm/APPROACHING FULL HEIGHT	M	MATURE DBH BET. 300 -700/APPROACH. MAX HT & SPREAD	OM	OVER-MATURE/SENESCENT LGE DBH, LGE BRANCH FAILURES/STRUCT FAULTS
STRUCTURE	P	POOR NUMEROUS STRUCTURAL FAULTS/HIGH RISK OF SEVERE FAILURE	F	FAIR STRUCTURAL FAULTS PRESENT /MODERATE RISK OF SEVERE FAILURE	Av	AVERAGE SOME MINOR FAULTS /MODERATE RISK FOR MAJOR FAILURE	Ex	EXCELLENT SOME MINOR FAULTS/LOW-MOD RISK OF MINOR FAILURES
HEALTH	P	POOR SIG. SIGNS OF LOST VIGOUR EG DIEBACK, REDUCED CANOPY	F	FAIR SIGNS OF REDUCED VIGOUR EG LEAF UNDER STRESS, STUNTING	Av	AVERAGE LOCALISED PATCHES OF LOST VIGOUR/NOT WIDESPREAD	G	GOOD NO EVIDENCE OF STRESS/SIGNS OF NEW GROWTH/WIDESPREAD
RETENTION	1. TREES TO BE RETAINED		2. TREES TO BE REMOVED		3. THREATENED TREES		4. TREES/PALMS POSSIBLE FOR TRANSPLANTING	

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229	*Pittosporum undulatum*	Sweet Pittosporum	M	9	0.21	2.5	0.44	2.3	4G	3. LOW	SUITABLE FOR REMOVAL	Av	Av	PRUNING HISTORY. ISOLATED. SURFACE ROOTS. LEANS EASTWARDS. CO-DOMINANT AT 2M WITH INCLUSION. NOTE: UNDER THE REQUIREMENTS OF THE *BIOSECURITY ACT, 2015,* THERE IS A GENERAL BIOSECURITY DUTY TO REDUCE THE SPREAD OF THIS TREE SPECIES.
230	*Pinus halapensis*	Aleppo Pine	M	22	0.64	7.7	1.12	3.5	2A	2.MED	MEDIUM	P	F	SUBJECT TO POWER LINE CLEARANCE PRUNING WEST. BASAL FLARE. EXUDING ROOT CROWN WOUND NORTH. CO-DOMINANT, 46 AND 44CM DBH, ACUTELY DIVERGENT, EAST TRUNK BOWED. LEANS NORTH. IVY ALONG WEST TRUNK INTO SCAFFOLDS. MAINLY DEAD. ASYMMETRY.
231	*Citharexylum spinosum*	Fiddlewood	M	13	0.45	5.4	0.56	2.6	1B	2. MED	HIGH	Av	Av	BASAL FLARE. CO-DOMINANT, 37 AND 25CM DBH. TRUNK FLUTED. BRANCHING EASTWARDS. ASYMMETRY. TWIG DIEBACK. BROKEN BRANCHES. SOME STORM DAMAGE NOTED.
232	*Ficus benjamina*	Weeping Fig	M	11	0.58	7.0	0.97	3.3	3D	2. MED	LOW	F	G	GROWTH ASSOCIATION WITH TREE 233. SURFACE ROOTS TO 6M SOUTH. MULTI-TRUNKED X 4; 40, 28, 15 AND 9CM DBH. SUBSIDED. LEANS NORTH-EAST. INCLUSIONS THROUGHOUT. LOW BRANCHING WITH EXTENSIVE SURFACE ROOTS.
233	*Ficus benjamina*	Weeping Fig	M	11	0.56	6.7	0.94	3.2	3D	2. MED	LOW	F	G	SURFACE ROOTS. MULTI-TRUNKED X 6; 38, 31, 16, 16, 17 AND 14CM DBH. UPRIGHT. ASYMMETRY. INNER CANOPY DEADWOOD. LOW BRANCHING WITH EXTENSIVE SURFACE ROOTS.
234	*Glochidion ferdinandi*	Cheese Tree	M	10	0.43	5.2	0.50	2.5	2B	2.MED	MEDIUM	F	G	BASAL FLARE. LOWER TRUNK WITH HELICAL BARK FORMATION. LOW CENTRAL BRANCH JUNCTION AT 1.8, ACUTELY CONVERGENT, INCLUSION, DIFFERENTIATED BARK, CRACKS. LOCATED CLOSE TO FENCE.
235	*Callistemon citrinus*	Lemon-scented Bottlebrush	M	5	0.14	1.7	0.21	1.7	5B	3. LOW	SUITABLE FOR REMOVAL	Av	G	ISOLATED. MULTI-TRUNKED X 4; 10, 8, 4 AND 4CM DBH. LOWER TRUNK WOUNDED NORTH-WEST. LOCATED ON FORMER BOWLING GREEN EMBANKMENT.
236	*Photinia robusta*	Red Leaf Photinia	M	7	0.24	2.9	0.57	2.6	1B	2. MED	HIGH	F	Av	MULTI-TRUNKED X 3; 15, 16 AND 9CM DBH. DIFFERENTIATED TRUNK BARK. NO BRANCHES NORTH-WEST.
237	*Eucalyptus robusta*	Swamp Mahogany	SM	9	0.30	3.6	0.29	2.0	2B	1. HIGH	HIGH	Av	Av	CO-DOMINANT, 22 AND 21CM DBH, ACUTELY DIVERGENT, INCLUSION. LISP SOUTHWARDS. BROKEN BRANCH WEST AT 1.5M. LOWER CANOPY TWIG DIEBACK. CANOPY SUPPRESSION FROM TREE 238. STORM DAMAGE WITHIN TREE.
238	*Eucalyptus robusta*	Swamp Mahogany	M	10	0.48	5.8	0.64	2.7	1A	2. MED	HIGH	G	Av	BASAL FLARE. CENTRAL BRANCH JUNCTION AT 2M, LATERALLY DIVERGENT. SCAFFOLD WEST WITH COMPARTMENTALISED WOUND. STUBS <20CM IN THICKNESS. GEAD FAILURE AT 10M. END WEIGHTED FOLIAGE DISTRIBUTION. STORM DAMAGE WITH LARGE EPICORMIC GROWTH OCCURRING.
239	*Phoenix canariensis*	Canary Island Date Palm	M	6	1.22	14.6	1.41	3.8	2A	3. LOW	MEDIUM	G	G	ELEVATED ROOT PLATE. LOW AND BROAD CANOPY. DEAD FRONDS.
240	*Syagrus romanzoffiana*	Cocos / Queen Palm	M	11	0.28	3.4	0.35	2.1	4G	3. LOW	SUITABLE FOR REMOVAL	Av	Av	FORMS A CLUSTER OF LIKE SPECIES TO PALM 245, ALL WITH ELEVATED ROOT PLATES AND BASAL FLARE FORMING A SMALL HILL. STOUT. DEAD FRONDS. NOTE: UNDER THE REQUIREMENTS OF THE *BIOSECURITY ACT, 2015,* THERE IS A GENERAL BIOSECURITY DUTY TO REDUCE THE SPREAD OF THIS PALM SPECIES. NOT SUITABLE FOR RELOCATION.
241	*Syagrus romanzoffiana*	Cocos / Queen Palm	M	11	0.29	3.5	0.44	2.3	4G	3. LOW	SUITABLE FOR REMOVAL	P	Av	SURFACE ROOTS. TRUNK WOUND AT 3M. LEANS AND BOWS EAST TO UPRIGHT, DESTABILISED. NOTE: UNDER THE REQUIREMENTS OF THE *BIOSECURITY ACT, 2015,* THERE IS A GENERAL BIOSECURITY DUTY TO REDUCE THE SPREAD OF THIS PALM SPECIES. NOT SUITABLE FOR RELOCATION.
242	*Syagrus romanzoffiana*	Cocos / Queen Palm	M	11	0.30	3.6	0.58	2.6	4G	3. LOW	SUITABLE FOR REMOVAL	Av	Av	SURFACE ROOTS. UNEVEN TAPER. DEAD FRONDS. NOTE: UNDER THE REQUIREMENTS OF THE *BIOSECURITY ACT, 2015,* THERE IS A GENERAL BIOSECURITY DUTY TO REDUCE THE SPREAD OF THIS PALM SPECIES. NOT SUITABLE FOR RELOCATION.
243	*Syagrus romanzoffiana*	Cocos / Queen Palm	SM	6	0.20	2.4	0.27	1.9	4G	3. LOW	SUITABLE FOR REMOVAL	Av	Av	UNDERSTOREY PALM. UNEVEN TAPER. DEAD FRONDS. NOTE: UNDER THE REQUIREMENTS OF THE *BIOSECURITY ACT, 2015,* THERE IS A GENERAL BIOSECURITY DUTY TO REDUCE THE SPREAD OF THIS PALM SPECIES. NOT SUITABLE FOR RELOCATION.
244	*Syagrus romanzoffiana*	Cocos / Queen Palm	M	11	0.24	2.9	0.37	2.2	4G	3. LOW	SUITABLE FOR REMOVAL	Av	Av	SURFACE ROOTS. STOUT. DEAD FRONDS. NOTE: UNDER THE REQUIREMENTS OF THE *BIOSECURITY ACT, 2015,* THERE IS A GENERAL BIOSECURITY DUTY TO REDUCE THE SPREAD OF THIS PALM SPECIES. NOT SUITABLE FOR RELOCATION.
245	*Syagrus romanzoffiana*	Cocos / Queen Palm	M	11	0.34	4.1	0.64	2.7	4G	3. LOW	SUITABLE FOR REMOVAL	Av	Av	UNEVEN TAPER. DEAD FRONDS. NOTE: UNDER THE REQUIREMENTS OF THE *BIOSECURITY ACT, 2015,* THERE IS A GENERAL BIOSECURITY DUTY TO REDUCE THE SPREAD OF THIS PALM SPECIES. NOT SUITABLE FOR RELOCATION.
246	*Archontophoenix alexandrae*	Alexander Palm	SM	9	0.35	4.2	0.80	3.0	5D	2. MED	MEDIUM	Av	G	CLUSTER OF 3, 19, 20 AND 22CM DBH. SURFACE ROOTS.

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LEGEND

AGE CLASS	**Y**	**YOUNG** SAPLING/HAS NOT REACHED 1ST ADULT FORM	**SM**	**SEMI-MATURE** DBH < 300mm/APPROACHING FULL HEIGHT	**M**	**MATURE** DBH BET. 300 -700/APPROACH. MAX HT & SPREAD	**OM**	**OVER-MATURE/SENESCENT** LGE DBH, LGE BRANCH FAILURES/STRUCT FAULTS
STRUCTURE	**P**	**POOR** NUMEROUS STRUCTURAL FAULTS/HIGH RISK OF SEVERE FAILURE	**F**	**FAIR** STRUCTURAL FAULTS PRESENT /MODERATE RISK OF SEVERE FAILURE	**Av**	**AVERAGE** SOME MINOR FAULTS /MODERATE RISK FOR MAJOR FAILURE	**Ex**	**EXCELLENT** SOME MINOR FAULTS/LOW-MOD RISK OF MINOR FAILURES
HEALTH	**P**	**POOR** SIG. SIGNS OF LOST VIGOUR EG DIEBACK, REDUCED CANOPY	**F**	**FAIR** SIGNS OF REDUCED VIGOUR EG LEAF UNDER STRESS, STUNTING	**Av**	**AVERAGE** LOCALISED PATCHES OF LOST VIGOUR/NOT WIDESPREAD	**G**	**GOOD** NO EVIDENCE OF STRESS/SIGNS OF NEW GROWTH/WIDESPREAD
RETENTION	**1. TREES TO BE RETAINED**		**2. TREES TO BE REMOVED**		**3. THREATENED TREES**		**4. TREES/PALMS POSSIBLE FOR TRANSPLANTING**	

TREE ASSESSMENT TABLE

No	BOTANICAL NAME	COMMON NAME	AGE CLASS	HEIGHT [M]	DBH[1] [MM]	TPZ [M]	DAB[2] [MM]	SRZ [M]	ULE	STARS© SIG. RATING	RETENT. VAUE	STRUCT	HEALTH	COMMENTS
247	*Archontophoenix alexandrae*	Alexander Palm	SM	9	0.25	3.0	0.54	2.6	5D	2. MED	MEDIUM	Av	G	CLUSTER OF 2, 19 AND 16CM DBH.
248	*Archontophoenix alexandrae*	Alexander Palm	SM	9	0.27	3.2	0.52	2.5	5D	2.MED	MEDIUM	Av	Av	CLUSTER OF 2, 22 AND 15CM DBH. WEST TRUNK WITH WOUND WEST. EAST TRUNK WITH WOUND EAST.
249	*Archontophoenix cunninghamiana*	Bangalow Palm / Piccabeen	SM	10	0.31	3.7	0.58	2.6	5D	2.MED	MEDIUM	Av	Av	CLUSTER OF 2, 24 AND 19CM DBH. WOUNDED NORTH TRUNK. LICHEN ALONG TRUNKS
250	*Washingtonia filifera*	Cotton Palm	M	16	0.44	5.3	0.85	3.1	5D	2.MED	MEDIUM	Av	F	ELEVATED ROOT PLATE. BASAL FLARE. SURFACE ROOTS. PIN HOLES ALONG TRUNK.
251	*Howea fosteriana*	Kentia palm	SM	11	0.33	4.0	0.66	2.8	5D	2. MED	MEDIUM	Av	F	CLUSTER OF 2, 22 AND 24CM DBH. TRUNK BARK DIFFERENTIATED. *MONSTERA SP.* ALONG TRUNK.
252	*Archontophoenix cunninghamiana*	Bangalow palm / Piccabeen	SM	8	0.24	2.9	0.36	2.2	5D	2. MED	MEDIUM	G	Av	ADJOINING COCO'S PALM FROND SUPPRESSION. SMALL HOLES, BEETLE ACTIVITY ALONG TRUNK.
253	*Syagrus romanzoffiana*	Cocos / Queen palm	M	9	0.34	4.1	0.42	2.3	4G	3. LOW	SUITABLE FOR REMOVAL	AV	Av	*MONSTERA SP.* ALONG TRUNK. YELLOWING FRONDS.
254	*Archontophoenix cunninghamiana*	Bangalow palm / Piccabeen	SM	8	0.26	3.1	0.47	2.4	5D	2. MED	MEDIUM	Av	G	CLUSTER OF 2, 20 AND 16CM DBH.
255	*Archontophoenix cunninghamiana*	Bangalow palm / Piccabeen	M	10	0.25	3.0	0.56	2.6	5D	2. MED	MEDIUM	G	G	TRUNK WITH *BROMELIAD SP.* CLUSTERS NORTH-WEST.
256	*Callistemon citrinus*	Lemon-scented bottlebrush	SM	6	0.15	1.8	0.19	1.6	3A	3. LOW	LOW	F	P	MULTI-TRUNKED X 3; 7, 8 AND 10CM DBH.
257	*Carotya mytis*	Fishtail palm	M	6	0.31	3.7	0.68	2.8	5D	3. LOW	SUITABLE FOR REMOVAL	Av	F	CLUSTER. MULTI-TRUNKED X 9; 10, 11, 12, 8, 8, 12, 10, 11 AND 10CM DBH. DEAD AND YELLOWING FRONDS.
258	*Camellia sasanqua*	Camelia	M	6	0.20	2.4	0.24	1.8	1B	3. LOW	MEDIUM	F	P	MULTI-TRUNKED X 5; 10, 11, 12, 8, 8, 12, 10, 11 AND 10CM DBH. HEDGED EAST.
259	*Leptospermum petersonii*	Lemon scented tea tree	M	8	0.32	3.8	0.36	2.2	3B	3. LOW	LOW	F	F	CO-DOMINANT, 30 AND 12CM DBH. LEANS WEST, AT 3M EASTWARDS.
260	*Acacia sp.*	Wattle	M	6	0.21	2.5	0.64	2.7	3A	3. LOW	LOW	Av	F	MULTI-TRUNKED X 7; 9, 6, 9, 10, 6, 8 AND 7CM DBH. GALL INFESTATION THROUGHOUT. BORERS PRESENT.
261	*Acacia sp.*	Wattle	OM	7	0.35	4.2	1.01	3.3	3A	3. LOW	LOW	Av	F	MULTI-TRUNKED X 8; 10, 10, 20, 7, 7, 10, 6 AND 19CM DBH. GALL INFESTATION THROUGHOUT.
262		NO TREE, NOTED ON EARLIER SURVEY												
263		NO TREE, NOTED ON EARLIER SURVEY												
264		NO TREE, NOTED ON EARLIER SURVEY												
265		NO TREE, NOTED ON EARLIER SURVEY												
266		NO TREE, NOTED ON EARLIER SURVEY												
267		NO TREE, NOTED ON EARLIER SURVEY												
268		NO TREE, NOTED ON EARLIER SURVEY												
269		NO TREE, NOTED ON EARLIER SURVEY												
270		NO TREE, NOTED ON EARLIER SURVEY												

1. MULTI TRUNKED TREES HAVE AN AVERAGE MEASUREMENT CALCULATED IN ACCORDANCE WITH AS 4970. 2. MINIMUM DISTANCE ALLOWED 2. DAB = DIAMETER ABOVE BUTTRESS USED WHEN CALCULATING SRZ. 3. SPECIES TO BE CONFIRMED © STARS – IACA 2020

LEGEND

AGE CLASS	Y	YOUNG SAPLING/HAS NOT REACHED 1ST ADULT FORM	SM	SEMI-MATURE DBH < 300mm/APPROACHING FULL HEIGHT	M	MATURE DBH BET. 300 -700/APPROACH. MAX HT & SPREAD	OM	OVER-MATURE/SENESCENT LGE DBH, LGE BRANCH FAILURES/STRUCT FAULTS
STRUCTURE	P	POOR NUMEROUS STRUCTURAL FAULTS/HIGH RISK OF SEVERE FAILURE	F	FAIR STRUCTURAL FAULTS PRESENT /MODERATE RISK OF SEVERE FAILURE	Av	AVERAGE SOME MINOR FAULTS /MODERATE RISK FOR MAJOR FAILURE	Ex	EXCELLENT SOME MINOR FAULTS/LOW-MOD RISK OF MINOR FAILURES
HEALTH	P	POOR SIG. SIGNS OF LOST VIGOUR EG DIEBACK, REDUCED CANOPY	F	FAIR SIGNS OF REDUCED VIGOUR EG LEAF UNDER STRESS, STUNTING	Av	AVERAGE LOCALISED PATCHES OF LOST VIGOUR/NOT WIDESPREAD	G	GOOD NO EVIDENCE OF STRESS/SIGNS OF NEW GROWTH/WIDESPREAD
RETENTION	1. TREES TO BE RETAINED		2. TREES TO BE REMOVED		3. THREATENED TREES		4. TREES/PALMS POSSIBLE FOR TRANSPLANTING	

TREE ASSESSMENT TABLE

No	BOTANICAL NAME	COMMON NAME	AGE CLASS	HEIGHT [M]	DBH[1] [MM]	TPZ [M]	DAB[2] [MM]	SRZ [M]	ULE	STARS© SIG. RATING	RETENT. VAUE	STRUCT	HEALTH	COMMENTS
271		NO TREE, NOTED ON EARLIER SURVEY												
272		NO TREE, NOTED ON EARLIER SURVEY												
273		NO TREE, NOTED ON EARLIER SURVEY												
274		NO TREE, NOTED ON EARLIER SURVEY												
275		NO TREE, NOTED ON EARLIER SURVEY												
276		NO TREE, NOTED ON EARLIER SURVEY												
277		NO TREE, NOTED ON EARLIER SURVEY												
278		NO TREE, NOTED ON EARLIER SURVEY												
279		NO TREE, NOTED ON EARLIER SURVEY												
280		NO TREE, NOTED ON EARLIER SURVEY												
281		NO TREE, NOTED ON EARLIER SURVEY												
282		NO TREE, NOTED ON EARLIER SURVEY												
283		NO TREE, NOTED ON EARLIER SURVEY												
284		NO TREE, NOTED ON EARLIER SURVEY												
285		NO TREE, NOTED ON EARLIER SURVEY												
286		NO TREE, NOTED ON EARLIER SURVEY												
287		NO TREE, NOTED ON EARLIER SURVEY												
288		NO TREE, NOTED ON EARLIER SURVEY												
289		NO TREE, NOTED ON EARLIER SURVEY												
290		NO TREE, NOTED ON EARLIER SURVEY												
291	*Grevillea robusta*	Silky Oak	M	14	0.36	4.3	0.44	2.3	2D	3. LOW	MEDIUM	Av	Av	BETWEEN TREES 167 AND 197. ACUTELY CO-DOMINANT AT 2M, INCLUSION.
292	*Protea longifolia*	Protea	M	4	0.45	5.4	0.82	3.0	4D	3. LOW	SUITABLE FOR REMOVAL	P	G	SHOWN AS TREE 210 ON THE 2019 SURVEY. MULTI-TRUNKED X 4; 2 X 25 AND 2 X 20CM DBH. FAILED TREE, ROLLED OVER WALL EAST.
293	*Melaleuca bracteata*	Black Tea-tree	M	10	0.67	8.0	0.63	2.7	3A	3. LOW	LOW	Av	F	SHOWN AS TREE 25 ON THE 2019 SURVEY. MULTI-TRUNKED, 60, 18, 20 AND 12CM DBH. INCLUSIONS. BROKEN OUT BRANCHES, NORTH. VINE INCURSION THROUGHOUT STRUCTURE.
294	*Quercus palustris*	Pin Oak	M	18	0.54	6.5	0.77	3.0	1B	1. HIGH	HIGH	G	G	BASAL FLARE. DEPRESSED RIB ALONG TRUNK EAST. DIFFERENTIATED BARK AROUND CENTRAL BRANCH JUNCTION, POSSIBLE PATHOGEN ACTIVITY. DIFFERENTIATED BARK TO SCAFFOLD EAST AT 8M. INNER CANOPY DEADWOOD <20CM IN THICKNESS. BROAD SPREAD.
295	*Cupressus x leylandii*	Leyland Cypress	M	12	0.24	2.9	0.30	2.0	5C	3. LOW	LOW	Av	F	ROW OF 25 SAME SPECIES. CENTRAL PART OF ROW HAS BEEN LOPPED AND TOPPED, SOUTH SIDE, FOR POWER LINE CLEARANCE. SOUTHERN SIDE OF TREES HAS BEEN HEDGED OR HAS DIED.

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LEGEND

AGE CLASS	**Y**	**YOUNG** SAPLING/HAS NOT REACHED 1ST ADULT FORM	**SM**	**SEMI-MATURE** DBH < 300mm/APPROACHING FULL HEIGHT	**M**	**MATURE** DBH BET. 300 -700/APPROACH. MAX HT & SPREAD	**OM**	**OVER-MATURE/SENESCENT** LGE DBH, LGE BRANCH FAILURES/STRUCT FAULTS
STRUCTURE	**P**	**POOR** NUMEROUS STRUCTURAL FAULTS/HIGH RISK OF SEVERE FAILURE	**F**	**FAIR** STRUCTURAL FAULTS PRESENT /MODERATE RISK OF SEVERE FAILURE	**Av**	**AVERAGE** SOME MINOR FAULTS /MODERATE RISK FOR MAJOR FAILURE	**Ex**	**EXCELLENT** SOME MINOR FAULTS/LOW-MOD RISK OF MINOR FAILURES
HEALTH	**P**	**POOR** SIG. SIGNS OF LOST VIGOUR EG DIEBACK, REDUCED CANOPY	**F**	**FAIR** SIGNS OF REDUCED VIGOUR EG LEAF UNDER STRESS, STUNTING	**Av**	**AVERAGE** LOCALISED PATCHES OF LOST VIGOUR/NOT WIDESPREAD	**G**	**GOOD** NO EVIDENCE OF STRESS/SIGNS OF NEW GROWTH/WIDESPREAD
RETENTION	**1. TREES TO BE RETAINED**		**2. TREES TO BE REMOVED**		**3. THREATENED TREES**		**4. TREES/PALMS POSSIBLE FOR TRANSPLANTING**	

TREE ASSESSMENT TABLE

No	BOTANICAL NAME	COMMON NAME	AGE CLASS	HEIGHT [M]	DBH[1] [MM]	TPZ [M]	DAB[2] [MM]	SRZ [M]	ULE	STARS© SIG. RATING	RETENT. VAUE	STRUCT	HEALTH	COMMENTS
296	*Syzygium luehmannii*	Creek Satinash / Riberry	M	11	0.38	4.6	0.47	2.4	2A	2. MED	MEDIUM	Av	Av	LENGHTY SURFACE ROOT NORTH-WEST. PRUNED SOUTH. CO-DOMINANT AT 1.5M. SCAFFOLD WITH HELICAL SCAR.
297	*Stenocarpus sinuatus*	Firewheel Tree	SM	9	0.13	1.6	0.18	1.6	1B	2. MED	HIGH	G	Av	IVY ALONG TRUNK AND INTO SCAFFOLDS. TRUNK KINKS AT BRANCH JUNCTION. HIGH BRANCHING.
298	*Callistemon viminalis*	Weeping Bottlebrush	SM	5	0.18	2.2	0.26	1.9	2A	3. LOW	MEDIUM	F	Av	FAILED SECOND TRUNK AT ROOT CROWN NORTH-EAST. TRUNK BOW AND SWEEP. BRANCHING NORTH.
299	*Casuarina glauca*	Swamp She-Oak	M	13	0.28	3.4	0.45	2.4	2D	3. LOW	MEDIUM	F	Av	NOT SHOWN ON SURVEY - FORMS A CLUSTER WITH TREES 29 - 30. CO-DOMINANT AT 50CM, 24 AND 15CM DBH, SMALLER TRUNK DIVERGENT, INCLUSION. EAST SIDE BROKEN BRANCHES. HEAD BOWS EASTWARDS.
300	*Eucalyptus sp.*	Eucalypt	M	12	0.42	5.0	0.53	2.5	4A	3. LOW	SUITABLE FOR REMOVAL	F	P	TRUNK BOW AND SWEEP TO THE EAST. BARK DELAMINATING. FAILED BRANCHES <10CM IN THICKNESS. SPORADIC FOLIAGE COVER. TREE IN DECLINE.
301		Dead Tree												
302	*Angopora costata*	Smooth-barked Apple	SM	4	0.11	2 (MIN)	0.15	1.5	1A	3. LOW	MEDIUM	F	Av	CO-DOMINANT TRUNK (90mm/6mm), SELF-SOWN SAPLING.

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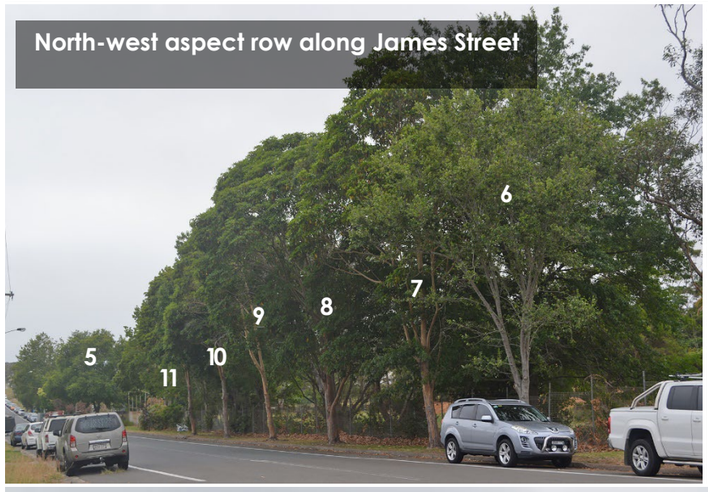
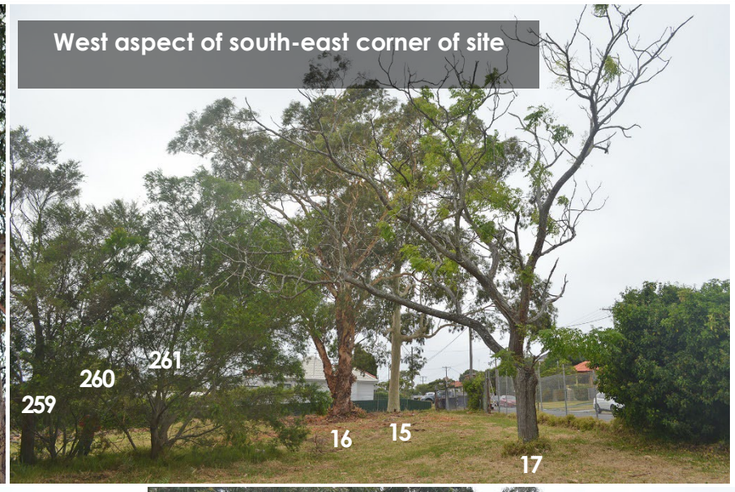
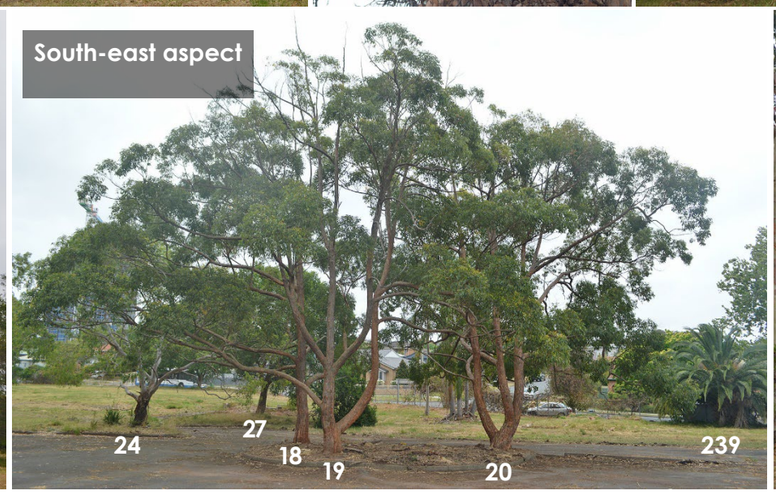
LEGEND

AGE CLASS	**Y**	**YOUNG** SAPLING/HAS NOT REACHED 1ST ADULT FORM	**SM**	**SEMI-MATURE** DBH < 300mm/APPROACHING FULL HEIGHT	**M**	**MATURE** DBH BET. 300 -700/APPROACH. MAX HT & SPREAD	**OM**	**OVER-MATURE/SENESCENT** LGE DBH, LGE BRANCH FAILURES/STRUCT FAULTS
STRUCTURE	**P**	**POOR** NUMEROUS STRUCTURAL FAULTS/HIGH RISK OF SEVERE FAILURE	**F**	**FAIR** STRUCTURAL FAULTS PRESENT /MODERATE RISK OF SEVERE FAILURE	**Av**	**AVERAGE** SOME MINOR FAULTS /MODERATE RISK FOR MAJOR FAILURE	**Ex**	**EXCELLENT** SOME MINOR FAULTS/LOW-MOD RISK OF MINOR FAILURES
HEALTH	**P**	**POOR** SIG. SIGNS OF LOST VIGOUR EG DIEBACK, REDUCED CANOPY	**F**	**FAIR** SIGNS OF REDUCED VIGOUR EG LEAF UNDER STRESS, STUNTING	**Av**	**AVERAGE** LOCALISED PATCHES OF LOST VIGOUR/NOT WIDESPREAD	**G**	**GOOD** NO EVIDENCE OF STRESS/SIGNS OF NEW GROWTH/WIDESPREAD
RETENTION	**1. TREES TO BE RETAINED**		**2. TREES TO BE REMOVED**		**3. THREATENED TREES**		**4. TREES/PALMS POSSIBLE FOR TRANSPLANTING**	

APPENDIX B – IMAGES (2019)





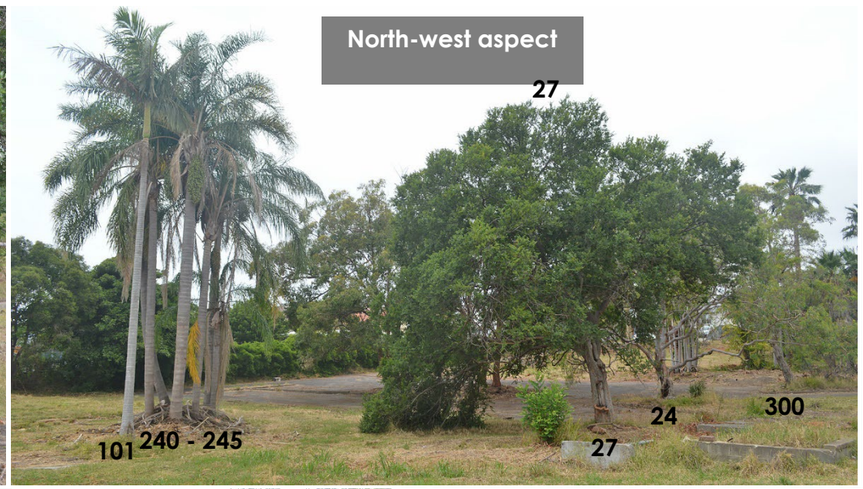


South-east aspect
23
22
21

25

Eastern aspect
25
293

North-west aspect 27


North-west aspect
27
101
240 - 245
24
300
27

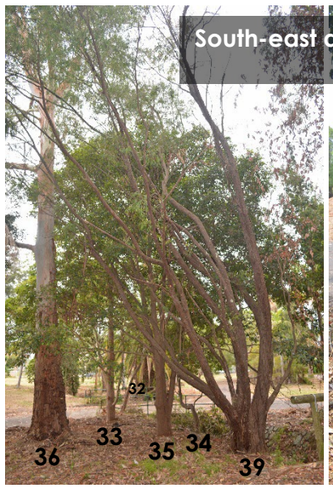
South aspect
102
103
100
99
98
97
96
28

South-east aspect
31
299
30
29

North aspect
33
32

114
109
110
120
39
34
33
35
32

North aspect
36


South-east aspects
36
33
32
35
34
39

37
38

North aspect
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43
(45)
41 (44)

South aspect
40
44 (41)

North aspect
54
49
50
53

North aspect
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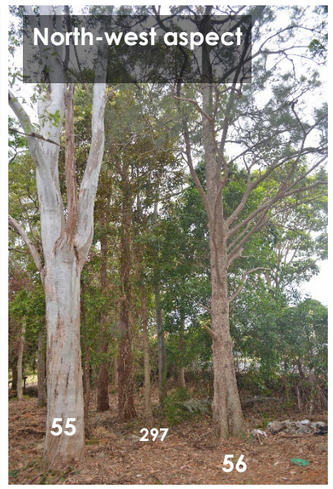
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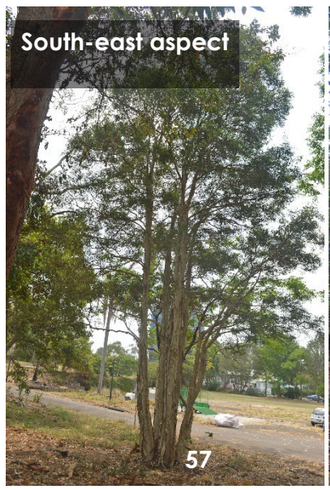
South-east aspect
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North-east aspect
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60
61
298
38

West aspect
69
60
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South-east aspect
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67
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65
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67

North-east aspect
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74
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East aspect
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72
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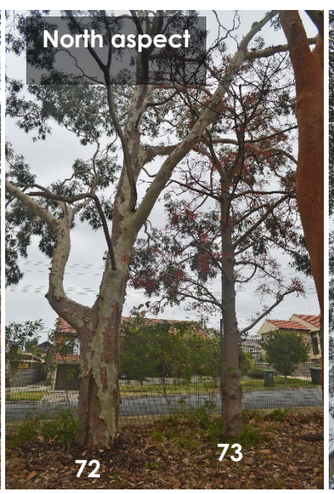
North aspect
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75

North aspect
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Western aspect
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72
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77

North-east aspect
79
78
83
215

East aspect
79
78

North-west aspect
80
82
83
81

North-east aspect
80
82
83

East aspect
86
85
84
167
168
169

North aspect
83
86
87

North-east aspect
88
174
175
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North-east aspect
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South aspect
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89
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West aspect
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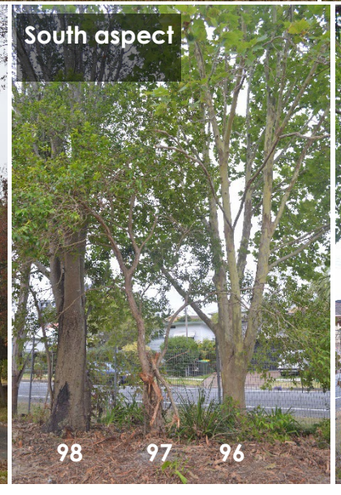
South aspect
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South-west aspect
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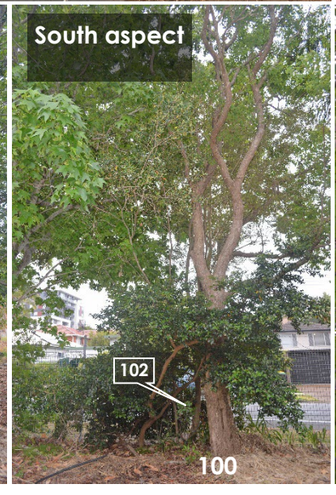
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East aspect
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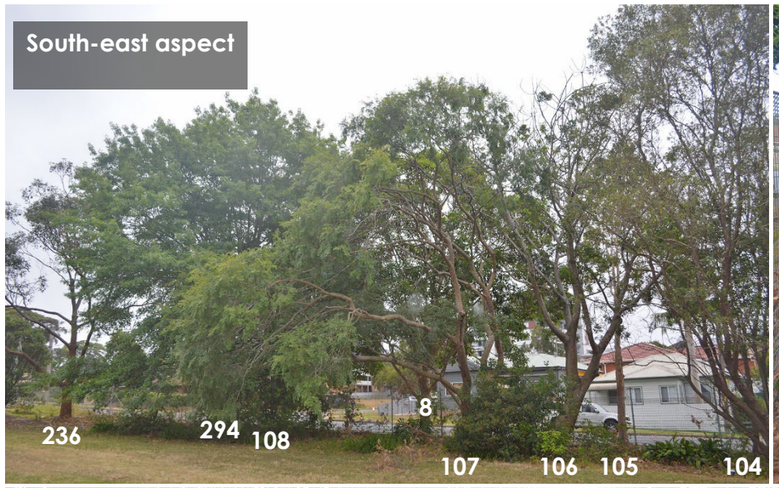
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West aspect
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106
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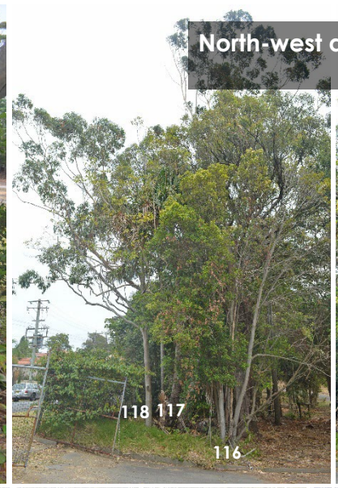
North-west aspect
118 117
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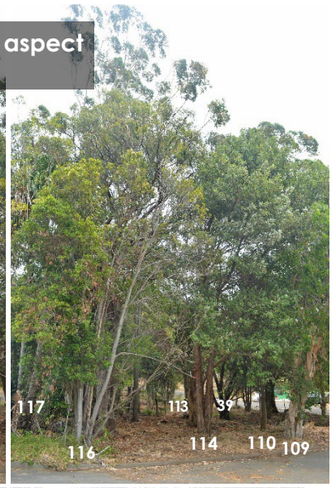
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West aspect
110
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South aspect
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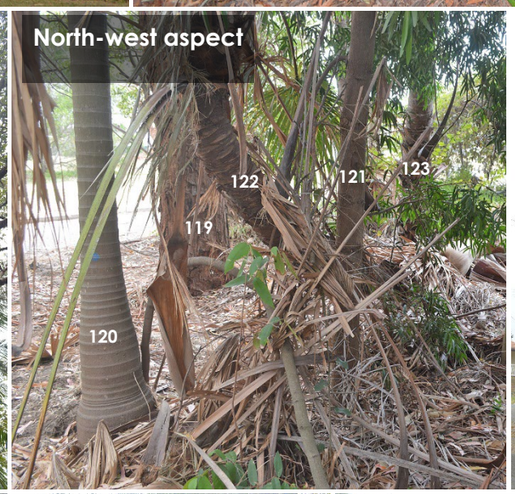
North-west aspect
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East aspect
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117
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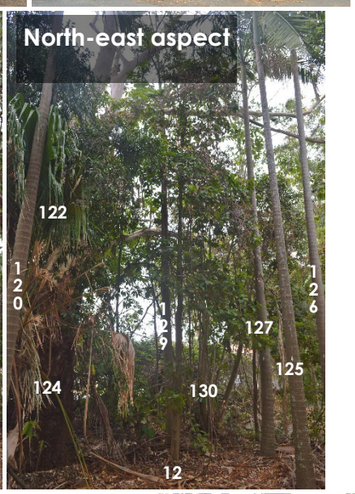
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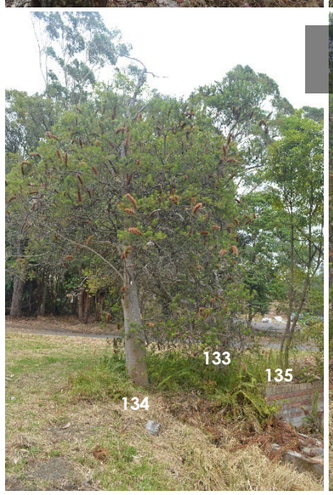
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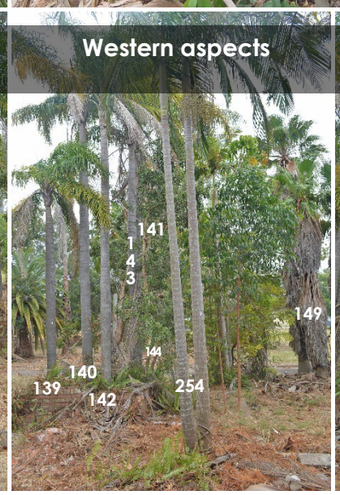
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144

152

East aspect
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141
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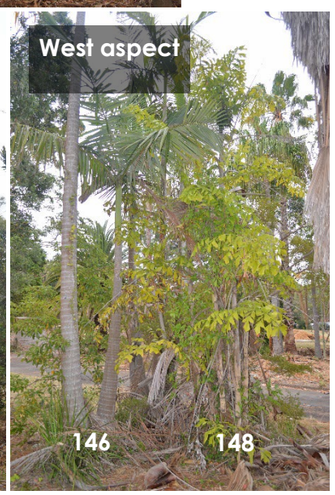
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North-west aspect
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South-west aspect
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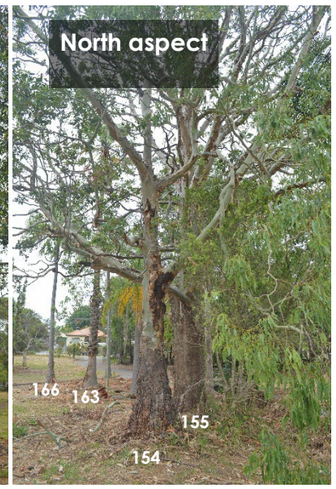
North aspect
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South-west aspect
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158
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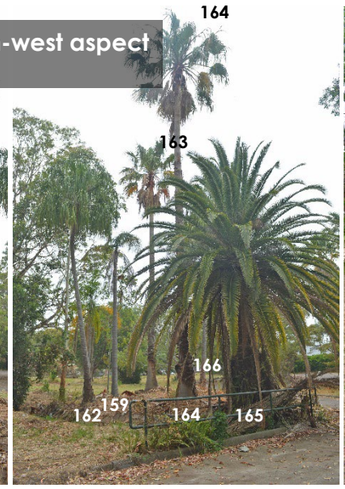
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East aspect
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East aspect
291
167
168
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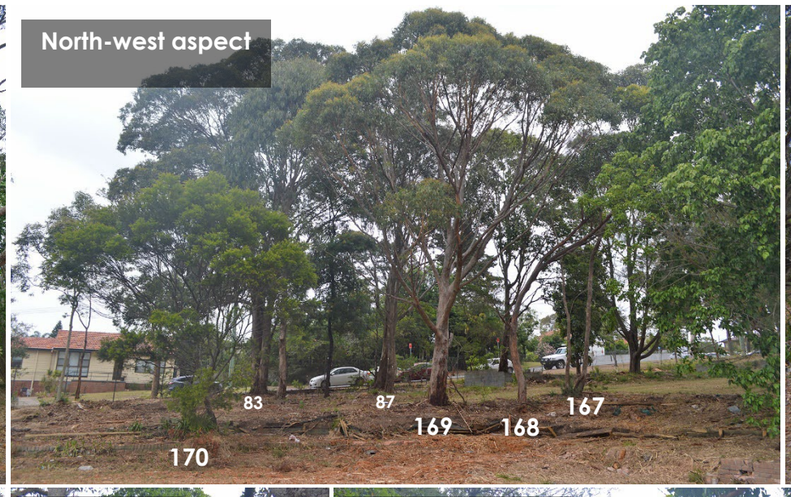
North-west aspect
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167
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170
South aspect
172
171
173

West aspect
87
88
174

175

West aspect
179
178
177

North-west aspect
181
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East aspect
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North aspect
186
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184
183
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South-west aspect
186
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187
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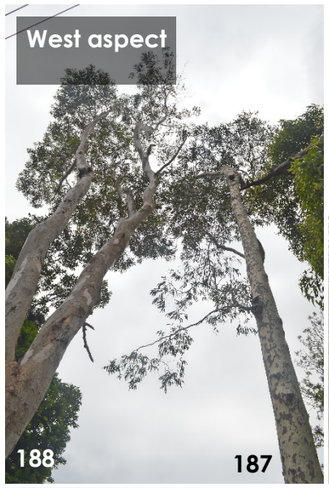
West aspect
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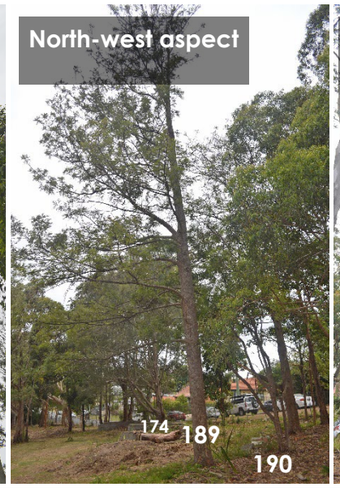
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West aspect
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West aspect
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North aspect
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192
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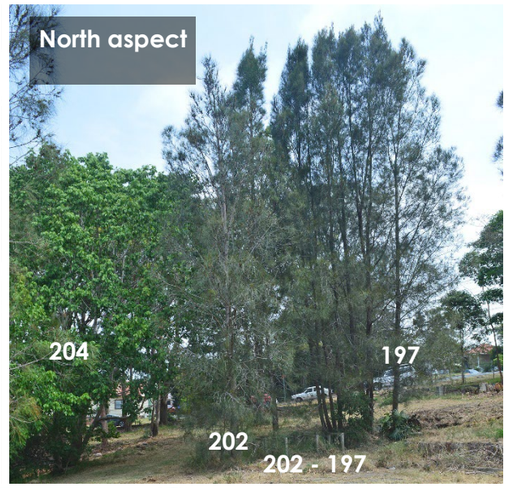
North aspect
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202 - 197

North aspect
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Eastern aspects
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South aspect
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North-west aspect
208
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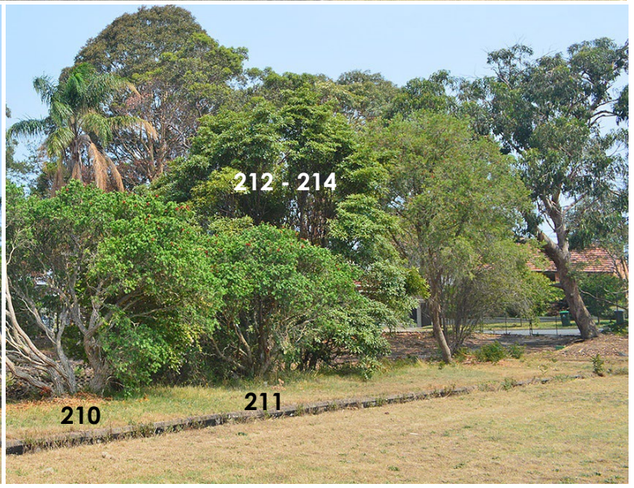
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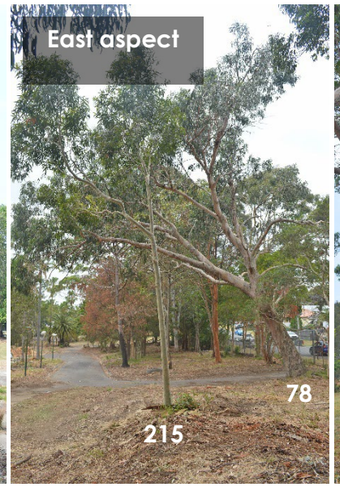
North-east aspect
208
292

South aspect
212 - 214


East aspect
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North aspect
218
219
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North aspect
Row 295
231
226
225
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219
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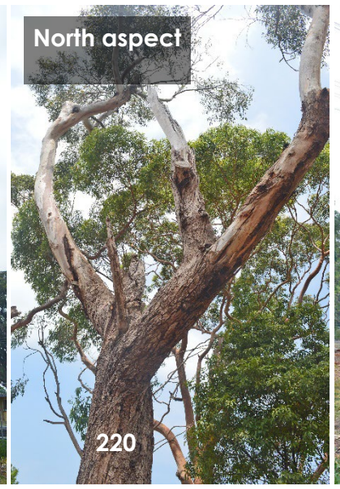
217
216


North aspect
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North-east aspect
222
223
224
Row 295
221

South aspect
218
221
226
227

South-east aspect
229
230
231
228
218

North-west aspect
193
229
228

North aspect
225
230

North-west aspect
228
231

West aspect
218
236
238
237
233
232

South aspect
236
237
238
294

West aspect
236
238
237

South aspect
234
235

South aspect
2
239
1

South-west aspect
3
101
240 - 245

North aspect
257
251
246 - 250

West aspect
259
257
256
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259
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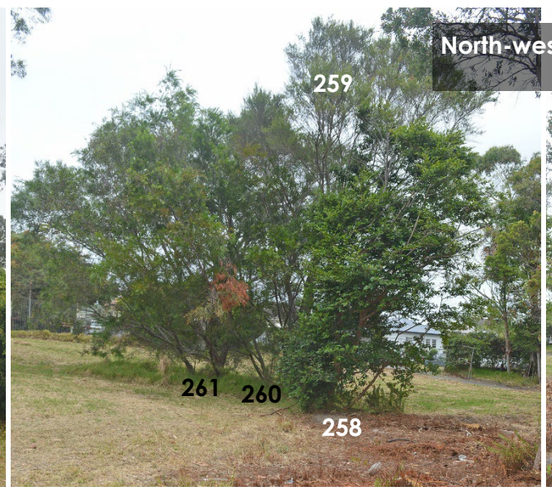
261
16
17


North-west aspect
259
261
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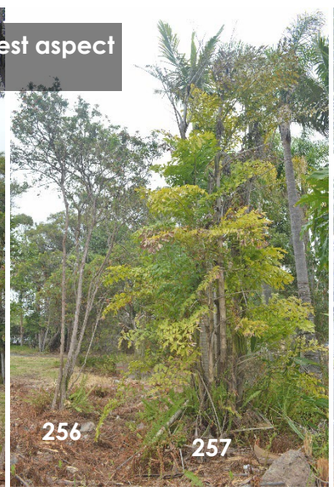
256
257

West aspect
6
294
238

APPENDIX C – TREE ASSESSMENT: TPZ/SRZ DIAGRAMS

OVERALL PLAN | L01

TIRAL STREET CHARLESTOWN - TREE ASSESSMENT

LEGEND

- 9 — ASSESSED TREE ID NUMBER
- TREE PROTECTION ZONE (TPZ)
- STRUCTURAL ROOT ZONE (SRZ)
- TREE REMOVAL: CONSTRUCTION IMPACT
- TREES PROPOSED TRANSPLANTATION
- RETAINED TREES
- THREATENED TREES
- ACM IMPACT AREAS (ESTIMATED)
- SITE BOUNDARY

REV	DATE	COMMENTS
D	1/9/22	contamination layers added
C	29/8/22	final assessment
B	25/8/22	prelim info issue
A	18/12/19	FIRST ISSUE

PROJECT:
TIRAL STREET CHARLESTOWN - TREE ASSESSMENT

SITE:
27 TIRAL STREET CHARLESTOWN

CLIENT:
UNITING CARE

12964.5 Uniting Tiral St Charlestown ARB +.vwx 1/9/22

DRAWN: AP / PW | DATE: 2019.12.18 | SCALE: 1:1000@A3

JOB NUMBER: **12964.5** | PHASE: **DA** | DWG No: **L01** | REV: **D**

Diameter at breast height (DBH) and diameter at base above the basal flare (DAB) measurements were taken and used to calculate the tree protection zones (TPZ) and structural root zones (SRZ) of each tree undertaken in accordance with *AS 4970 – Protection of Trees on Development Sites.*

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ARCH + CIVIL OVERLAYS | L02

TIRAL STREET CHARLESTOWN - TREE ASSESSMENT

JOINS L005 SHEET 05

JOINS L003 SHEET 03

LEGEND

- 9 — ASSESSED TREE ID NUMBER
- TREE PROTECTION ZONE (TPZ)
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- RETAINED TREES
- THREATENED TREES
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- SITE BOUNDARY

REV	DATE	COMMENTS
D	1/9/22	contamination layers added
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A	18/12/19	FIRST ISSUE

PROJECT:
TIRAL STREET CHARLESTOWN - TREE ASSESSMENT

SITE:
27 TIRAL STREET CHARLESTOWN

CLIENT:
UNITING CARE

12964.5 Uniting Tiral St Charlestown AR8 +.vwx 1/9/22

DRAWN: AP / PW | DATE: 2019.12.18 | SCALE: 1:1000@A3

JOB NUMBER: 12964.5 | PHASE: DA | DWG No: L02 | REV: D

Diameter at breast height (DBH) and diameter at base above the basal flare (DAB) measurements were taken and used to calculate the tree protection zones (TPZ) and structural root zones (SRZ) of each tree undertaken in accordance with *AS 4970 – Protection of Trees on Development Sites.*

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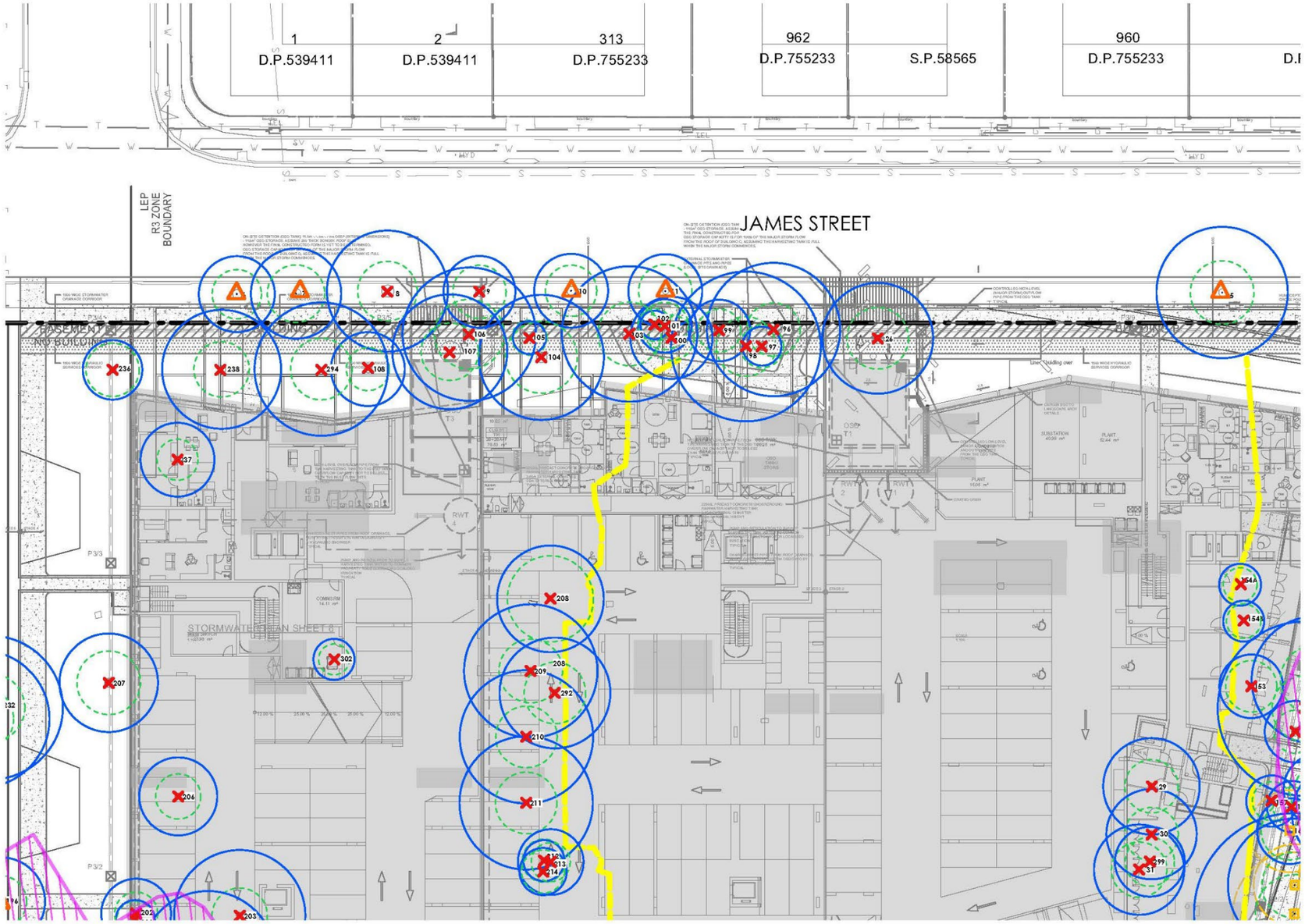
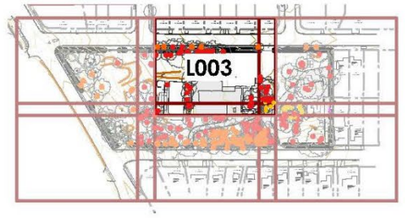
ARCH + CIVIL OVERLAYS | L03

TIRAL STREET CHARLESTOWN - TREE ASSESSMENT





LEGEND

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- TREE PROTECTION ZONE (TPZ)
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- THREATENED TREES
- ACM IMPACT AREAS (ESTIMATED)
- SITE BOUNDARY

REV	DATE	COMMENTS
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C	29/8/22	final assessment
B	25/8/22	prelim info issue
A	18/12/19	FIRST ISSUE

PROJECT:
TIRAL STREET CHARLESTOWN - TREE ASSESSMENT

SITE:
27 TIRAL STREET CHARLESTOWN

CLIENT:
UNITING CARE

12964.5 Uniting Tiral St Charlestown ARB +.vwx 1/9/22

DRAWN:	DATE:	SCALE:
AP / PW	2019.12.18	1:1000@A3

JOB NUMBER:	PHASE:	DWG No:	REV:
12964.5	DA	L03	D

Diameter at breast height (DBH) and diameter at base above the basal flare (DAB) measurements were taken and used to calculate the tree protection zones (TPZ) and structural root zones (SRZ) of each tree undertaken in accordance with *AS 4970 – Protection of Trees on Development Sites.*

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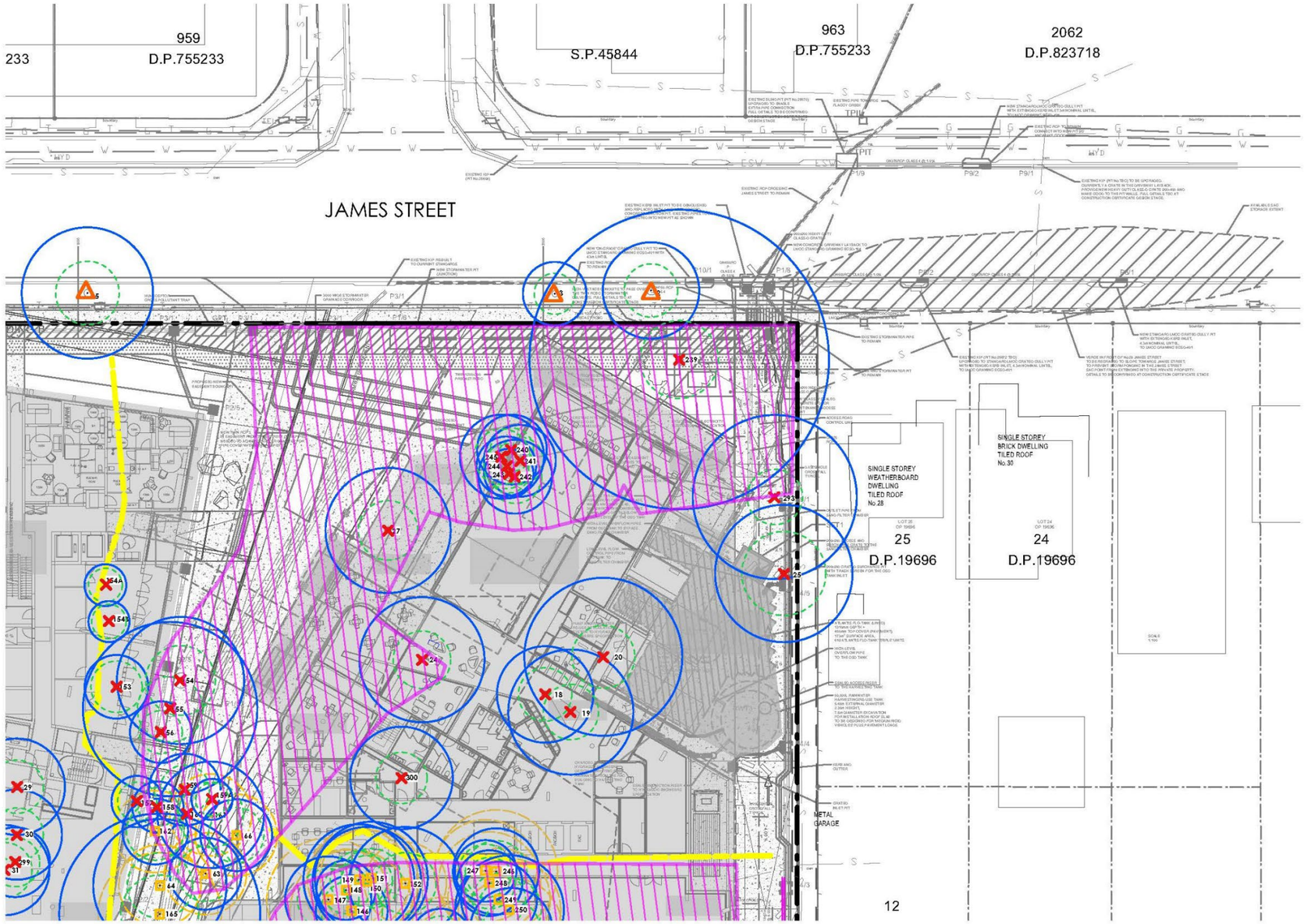
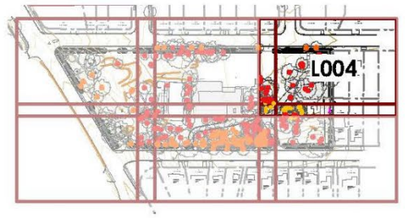
ARCH + CIVIL OVERLAYS | L04

TIRAL STREET CHARLESTOWN - TREE ASSESSMENT





LEGEND

- 9 — ASSESSED TREE ID NUMBER
- TREE PROTECTION ZONE (TPZ)
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- ACM IMPACT AREAS (ESTIMATED)
- SITE BOUNDARY

REV	DATE	COMMENTS
D	1/9/22	contamination layers added
C	29/8/22	final assessment
B	25/8/22	prelim info issue
A	18/12/19	FIRST ISSUE

PROJECT:
TIRAL STREET CHARLESTOWN - TREE ASSESSMENT

SITE:
27 TIRAL STREET CHARLESTOWN

CLIENT:
UNITING CARE

12964.5 Uniting Tiral St Charlestown ARB +.vwx 1/9/22

DRAWN: AP / PW | DATE: 2019.12.18 | SCALE: 1:1000@A3

JOB NUMBER: 12964.5 | PHASE: DA | DWG No: L04 | REV: D

Diameter at breast height (DBH) and diameter at base above the basal flare (DAB) measurements were taken and used to calculate the tree protection zones (TPZ) and structural root zones (SRZ) of each tree undertaken in accordance with *AS 4970 – Protection of Trees on Development Sites.*

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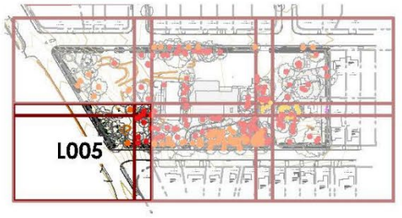
ARCH + CIVIL OVERLAYS | L05

TIRAL STREET CHARLESTOWN - TREE ASSESSMENT

JOINS L002 SHEET 02

JOINS L006 SHEET 06



LEGEND

- 9 — ASSESSED TREE ID NUMBER
- TREE PROTECTION ZONE (TPZ)
- STRUCTURAL ROOT ZONE (SRZ)
- TREE REMOVAL: CONSTRUCTION IMPACT
- TREES PROPOSED TRANSPLANTATION
- RETAINED TREES
- THREATENED TREES
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- SITE BOUNDARY

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REV	DATE	COMMENTS
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C	29/8/22	final assessment
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PROJECT:
TIRAL STREET CHARLESTOWN - TREE ASSESSMENT

SITE:
27 TIRAL STREET CHARLESTOWN

CLIENT:
UNITING CARE

12964.5 Uniting Tiral St Charlestown ARB +.vwx 1/9/22

DRAWN:	DATE:	SCALE:
AP / PW	2019.12.18	1:1000@A3

JOB NUMBER:	PHASE:	DWG No:	REV:
12964.5	DA	L05	D

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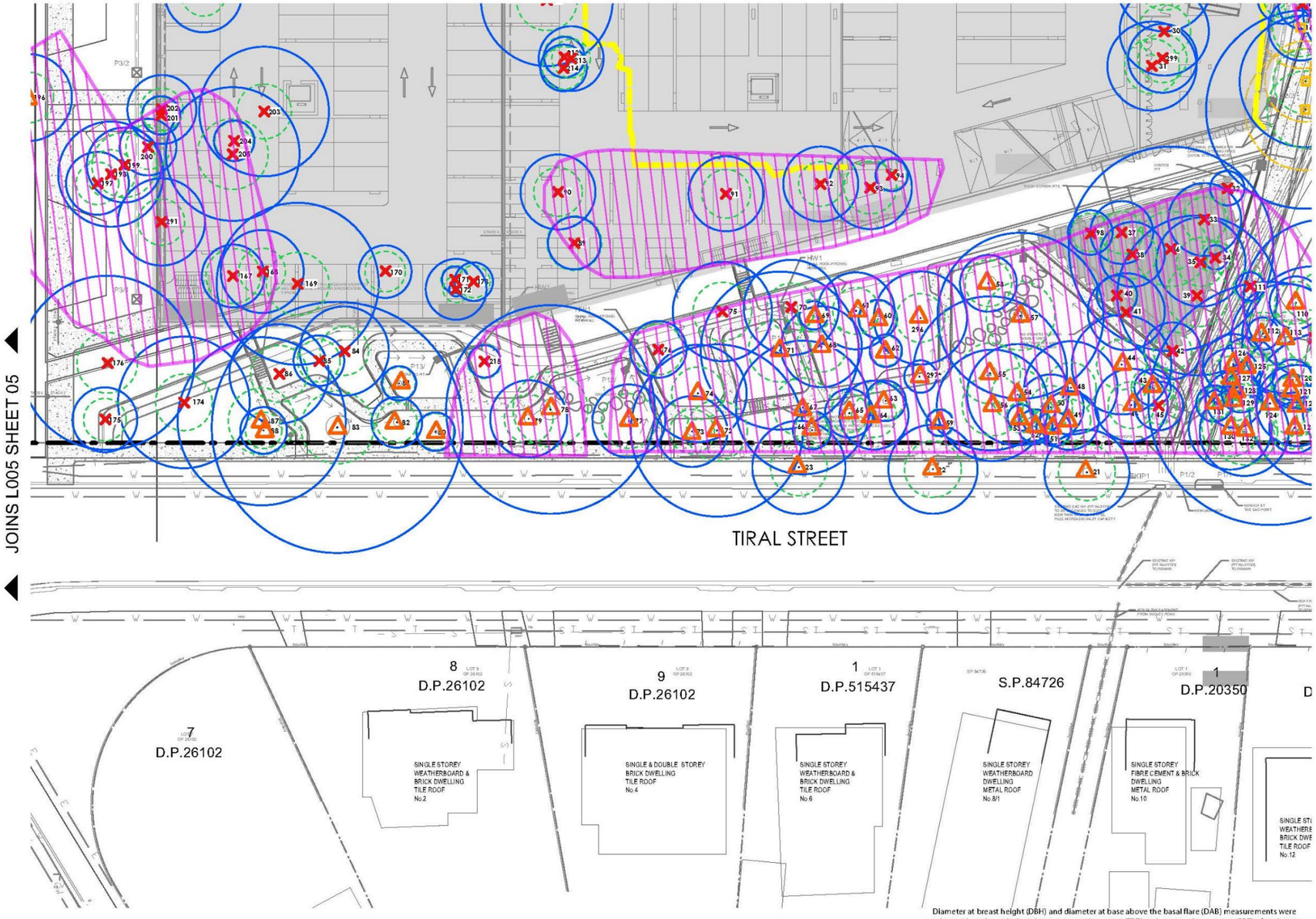
ARCH + CIVIL OVERLAYS | L06

TIRAL STREET CHARLESTOWN - TREE ASSESSMENT

JOINS L003 SHEET 03



LEGEND

- 9 — ASSESSED TREE ID NUMBER
- TREE PROTECTION ZONE (TPZ)
- STRUCTURAL ROOT ZONE (SRZ)
- TREE REMOVAL: CONSTRUCTION IMPACT
- TREES PROPOSED TRANSPLANTATION
- RETAINED TREES
- THREATENED TREES
- ACM IMPACT AREAS (ESTIMATED)
- SITE BOUNDARY

Diameter at breast height (DBH) and diameter at base above the basal flare (DAB) measurements were taken and used to calculate the tree protection zones (TPZ) and structural root zones (SRZ) of each tree undertaken in accordance with *AS 4970 – Protection of Trees on Development Sites.*

REV	DATE	COMMENTS
D	1/9/22	contamination layers added
C	29/8/22	final assessment
B	25/8/22	prelim info issue
A	18/12/19	FIRST ISSUE

PROJECT:
TIRAL STREET CHARLESTOWN - TREE ASSESSMENT

SITE:
27 TIRAL STREET CHARLESTOWN

CLIENT:
UNITING CARE

12964.5 Uniting Tiral St Charlestown ARB + swx 1/9/22

DRAWN: AP / PW | DATE: 2019.12.18 | SCALE: 1:1000@A3

JOB NUMBER: 12964.5 | PHASE: DA | DWG No: L06 | REV: D

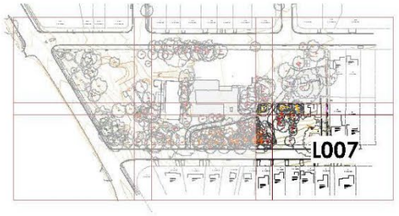
terras landscape architects
412 KING STREET NEWCASTLE NSW AUSTRALIA 2300
TERRAS.COM.AU PH: 49 294 926 FAX: 49 263 069

ARCH + CIVIL OVERLAYS | L07

TIRAL STREET CHARLESTOWN - TREE ASSESSMENT

JOINS L004 SHEET 04

JOINS L006 SHEET 06



LEGEND

- 9 — ASSESSED TREE ID NUMBER
- TREE PROTECTION ZONE (TPZ)
- STRUCTURAL ROOT ZONE (SRZ)
- TREE REMOVAL: CONSTRUCTION IMPACT
- TREES PROPOSED TRANSPLANTATION
- RETAINED TREES
- THREATENED TREES
- ACM IMPACT AREAS (ESTIMATED)
- SITE BOUNDARY

Diameter at breast height (DBH) and diameter at base above the basal flare (DAB) measurements were taken and used to calculate the tree protection zones (TPZ) and structural root zones (SRZ) of each tree undertaken in accordance with *AS 4970 – Protection of Trees on Development Sites.*

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PROJECT:
TIRAL STREET CHARLESTOWN - TREE ASSESSMENT

SITE:
27 TIRAL STREET CHARLESTOWN

CLIENT:
UNITING CARE

12964.5 Uniting Tiral St Charlestown ARB • vwx 1/9/22

DRAWN: AP / PW | DATE: 2019.12.18 | SCALE: 1:1000@A3

JOB NUMBER: 12964.5 | PHASE: DA | DWG No: L07 | REV: D

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APPENDIX D – TREE PROTECTION MEASURES

D1 Tree Protection Zones (TPZ)

A tree protection zone is defined by measurements taken at 1.4m above ground described as Diameter at Breast Height (DBH). The radius of the TPZ is calculated for each tree by multiplying its DBH × 12. In accordance with AS 4970 minor encroachment less than 10% into the TPZ is possible and activities remain outside the SRZ.

Compensations for this encroachment must be accounted for elsewhere and contiguous with the TPZ. Variations beyond this percentage of encroachment may require further investigation by the project arborist to demonstrate that tree would remain viable.

D2 TPZ Encroachment

Potential impacts from TPZ encroachments are to be considered by the project arborist. The following key points are extracts from AS4970–2009 *Protection of trees on development sites*.

- Location and distribution of the roots to be determined through non-destructive investigation methods (pneumatic, hydraulic, hand digging or ground penetrating radar). Photographs should be taken and a root zone map prepared.
- The potential loss of root mass resulting from the encroachment: number and size of roots.
- Tree species and tolerance to root disturbance.
- Age, vigour and size of the tree.
- Lean and stability of the tree.
- Soil characteristics and volume, topography and drainage.
- The presence of existing or past structures or obstacles affecting root growth.
- Design factors.

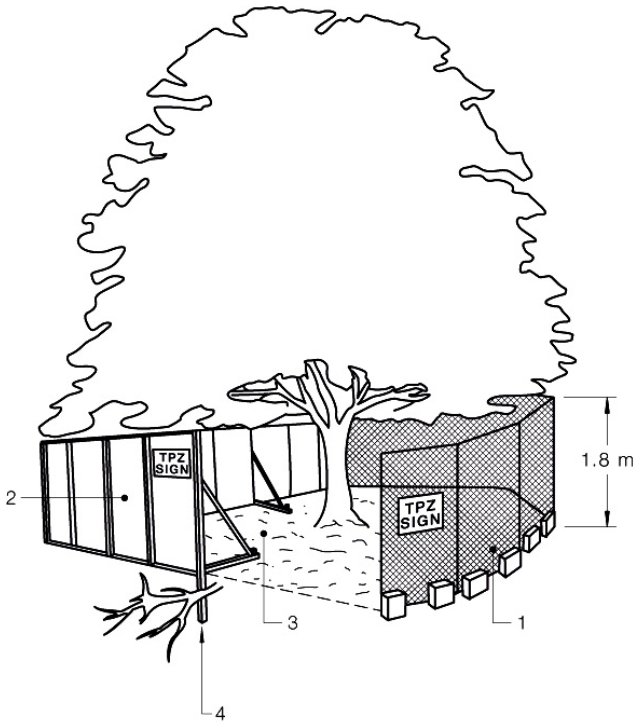
D3 TPZ fencing

The intended purpose for a TPZ is to isolate development and construction works from the protection area and also minimise root disturbance, soil compaction and moisture loss.

Methods for tree protection have been adapted from the AS 4970 – *Protection of trees on development sites*.

- TPZ fencing shall include the following:
- Lockable Chain mesh fencing with supports greater than 20mm diameter.
- Bracing or fence supports are permissible.
- Shade cloth (if required) to be attached to fencing to reduce dust entering the TPZ.
- Plywood or wooden paling fence panels as an alternative to chain mesh.
- Signage should be attached to the temporary fencing in a clearly visible location or locations, stating that the enclosed area is a TPZ and that there shall be no unauthorised access. The sign should also include the name and contact details of the site foreman and/or the project arborist.

Refer Figure D1 for details.



LEGEND:
1 Chain wire mesh panels with shade cloth (if required) attached, 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 the discretion of the project arborist). No excavation, construction activity, grade changes, surface treatment or storage of materials of any kind is permitted within the TPZ.
4 Bracing is permissible within the TPZ. Installation of supports should avoid damaging roots.

FIGURE D1 PROTECTIVE FENCING (SOURCE: AS4970-*2009 PROTRECTION OF TREES ON DEVELOPMENT SITES*, P. 16)

D4 Temporary access within the TPZ

If temporary access is required within the TPZ alternative protection measures will be required for the protection of the root zone, trunk and branches for the duration which will include the following:

- Padding for trunk and branch protection over-laid with strapped timbers.
- Rumble boards strapped over mulch or aggregate (Refer Root Protection System Detail)
- Geotextile fabric with a layer of mulch installed across the TPZ.

In situations where the installation of temporary protective fencing is unachievable, and subject to the approval of the project arborist, the above protection methods shall be used to protect the root zone, trunk and branches of the tree for the duration of the project.

D5 Restricted Activities Within the TPZ

The TPZ is a restricted zone isolated from construction activities. Restricted work activities carried out within the TPZ can have adverse effects on a tree's viability. General activities which are excluded from the TPZ but are not limited to restricted activities include:

- machine excavation including trenching;
- excavation for silt fencing;
- cultivation;
- equipment storage;
- preparation of chemicals, including preparation of cement products;
- parking of vehicles and plant;
- refuelling;
- dumping of waste;
- wash down and cleaning of equipment;
- stockpiling of fill;
- soil grade changes; and,
- physical damage to the tree.

TPZ AREA TO BE TEMPORARILY ENCROACHED IS TO BE COVERED BY A PERMEABLE MEMBRANE, 100mm LAYER OF MULCH OR CRUSHED ROCK WITH RUMBLE BOARDS OVER.

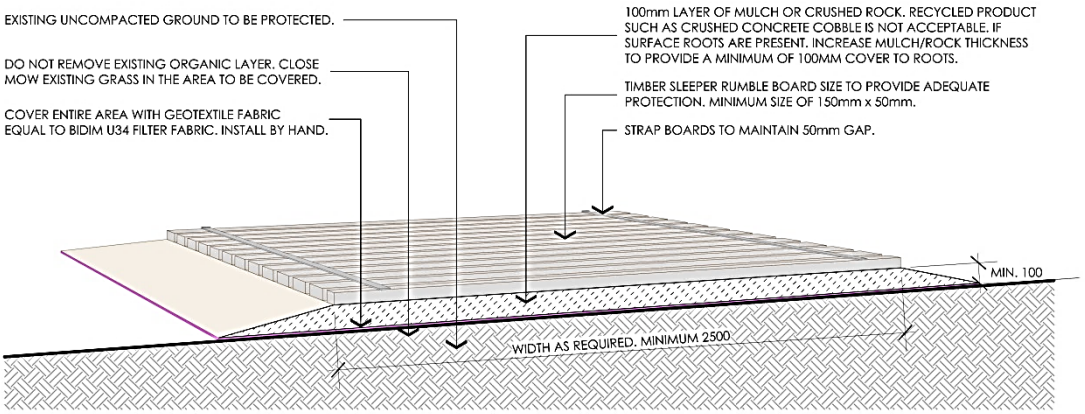
- INSTALL RPS BY WORKING FROM OUTSIDE TPZ.

- MINI TRACKED MACHINERY MAY BE USED TO TRANSPORT MULCH/ROCK MATERIAL, ALWAYS WORKING ON INSTALLED RPS

- DISMANTLE WORKING BACKWARDS. ANY MACHINERY TO WORK ON REMAINING RPS.

- GEOTEXTILE TO BE REMOVED BY HAND.

- REINSTATE/MAKE GOOD LAWN OR GARDEN BED TO MATCH EXISTING.



1 ROOT PROTECTION SYSTEM (RPS) DETAIL
Scale: 1:50

APPENDIX E – ULE AND STARS© CLASSIFICATIONS

The following tables provide supplementary information to assist in interpreting the previous assessment tables (Appendix A).

ULE CLASSIFICATIONS

1	**LONG ULE : GREATER THAN 40 YEARS [>40]** TREES THAT APPEAR TO BE RETAINABLE WITH AN ACCEPTABLE LEVEL OF RISK FOR MORE THAN 40 YEARS
A	Structurally sound trees located in positions that can accommodate future growth.
B	Storm damaged or defective trees that could be made suitable for retention by remedial tree surgery.
C	Trees of special significance for historical, commemorative or rarity reasons that would warrant extraordinary efforts to secure their long-term retention.

2	**MEDIUM ULE : MORE THAN 15 YEARS, LESS THAN 40 YEARS [15 - 40]** TREES THAT APPEAR TO BE RETAINABLE WITH AN ACCEPTABLE LEVEL OF RISK FOR 15 TO 40 YEARS
A	Trees that may only live between 15 and 40 more years
B	Trees that may live for more than 40 years but would be removed to allow the safe development of more suitable individuals
C	Trees that may live for more than 40 years but would be removed during the course of normal management for safety or nuisance reasons
D	Storm damaged or defective trees that can be made suitable for retention by remedial work

3	**SHORT ULE : MORE THAN 5 YEARS, LESS THAN 15 YEARS [5 -15]** TREES THAT APPEAR TO BE RETAINABLE WITH AN ACCEPTABLE LEVEL OF RISK FOR 5 TO 15 YEARS
A	Trees that may only live between 5 and 15 more years
B	Trees that may live for more than 15 years but would be removed to allow the safe development of more suitable individuals
C	Trees that may live for more than 15 years but would be removed during the course of normal management for safety or nuisance reasons
D	Storm damaged or defective trees that require substantial remedial work to make safe, and are only suitable for retention in the short term

4	**REMOVE : LESS THAN 5 YEARS [<5]** TREES WITH A HIGH LEVEL OF RISK THAT WOULD NEED REMOVING WITHIN THE NEXT 5 YEARS
A	Dead trees
B	Dying or suppressed and declining trees through disease or inhospitable conditions
C	Dangerous trees through instability or recent loss of adjacent trees
D	Dangerous trees through structural defects, including cavities, decay, included bark, wounds or poor form
E	Damaged trees that are considered unsafe to retain
F	Trees that will become dangerous after removal of others for the reasons given in A to E
G	Weed species or undesirable species

5	**TREES THAT CAN BE EITHER SUCCESFULLY REMOVED OR REPLACED**
A	A small tree less than 5 metres in height
B	Young trees less than 15 years old but over 5 metres in height
C	Trees that have been regularly pruned to artificially control growth
D	Trees of palms that can be transplanted easily

REFERENCE: (after) **LINK TREE SYSTEM LTD. JEREMY BARRELL, ARBORICULTURAL JOURNAL 1993, VOL. 17PP. 33-46, 01/03/98 + REVISIONS**

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. An example of its use in an Arboricultural report is shown as Appendix A.

Tree Significance - Assessment Criteria

1. 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 Councils 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.

2. Medium Significance in landscape

- The tree is in fair-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*.

3. Low Significance in landscape

- The tree is in fair-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/Irreversible Decline

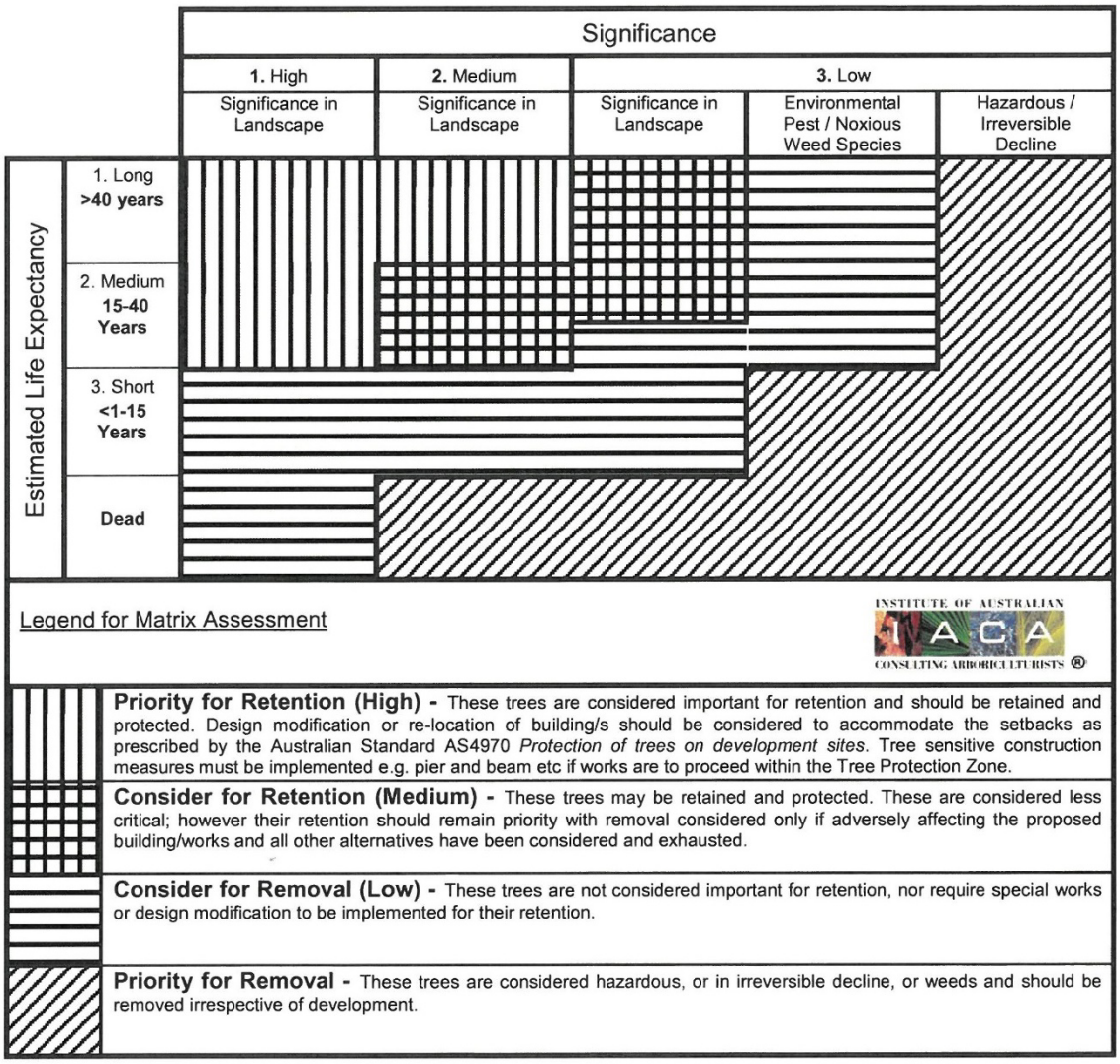
- The tree is structurally unsound and/or unstable and is considered potentially dangerous,
- The tree is dead, or is in irreversible decline, or has the potential to fail or collapse in full or part in the immediate to short term.

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 monocultural stand in its entirety e.g. hedge.

IACA 2010, *IACA Significance of a Tree, Assessment Rating System (STARS)*, Institute of Australian Consulting Arboriculturists, www.iaca.org.au

Table 1.0 Tree Retention Value - Priority Matrix.



USE OF THIS DOCUMENT AND REFERENCING

The IACA Significance of a Tree, Assessment Rating System (STARS) is free to use, but only in its entirety and must be cited as follows:

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

REFERENCES

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

Draper BD and Richards PA 2009, *Dictionary for Managing Trees in Urban Environments*, Institute of Australian Consulting Arboriculturists (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

IACA 2010, *IACA Significance of a Tree, Assessment Rating System (STARS)*, Institute of Australian Consulting Arboriculturists, www.iaca.org.au

Appendix A

The following example shows the IACA **Significance** of a **Tree, Assessment Rating System** (STARS) used in an Arboricultural report.

Tree Significance

Determined by using the Tree Significance - Assessment Criteria of the *IACA Significance of a Tree, Assessment Rating System* (STARS)© (IACA, 2010), Appendix B.

Trees 14, 16, 17/3, 19 and 20/4 are of high significance with the remaining majority of medium significance and a few of low significance. Tree 14 is significant as a prominent specimen and a food source for indigenous avian fauna. Tree 16 as a non-locally indigenous planting is of good from and prominent *in situ*; Tree 17/3 as a stand of 6 street trees along the Davey Street frontage screening views to and from the site and contiguous with trees in Victoria Park extending the aesthetic influence of the urban canopy to the site. Similarly for Trees 20/4 as street trees in Long Road and Tree 19 as an extant exotic planting as a senescent component of the original landscaping. The trees of low significance are recent plantings as fruit trees – Avocados, and 1 Cootamundra Wattle as a non-locally indigenous tree in irreversible decline and potentially structurally unsound.

Significance Scale

1 – High
2 – Medium
3 – Low

Significance Scale	1	2	3
Tree No. / Stand No.	14, 16, 17/3, 19, 20/4	1/1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12/2, 15, 18, 21/5	3, 13, 22

Tree Retention Value

Determined by using the Retention Value - Priority Matrix of the *IACA Significance of a Tree, Assessment Rating System* (STARS)© (IACA, 2010), Appendix B.

Retention Value

High – Priority for Retention
Medium – Consider for Retention
Low – Consider for Removal
Remove - Priority for Removal

Retention Value	High – Priority for Retention	Medium – Consider for Retention	Low – Consider for Removal	Remove – Priority for Removal
Tree No. / Stand No.	1/1, 5, 17/3*, 19	2, 4, 6, 7, 8, 9, 10, 11, 14, 15, 16, 18, 20/4*, 21/5	3, 12/2, 13,	22

* Trees located within the neighbouring property and should be retained and protected.

IACA 2010, *IACA Significance of a Tree, Assessment Rating System (STARS)*, Institute of Australian Consulting Arboriculturists, www.iaca.org.au