

Tree Assessment Report

Prepared for

NBRS Architecture

Armidale Secondary College

Redevelopment SSD 9095

T: 02 90955677

E: macella.salzmann@nbrsarchitecture.com>

Site Address:

158-182 Butler St, Armidale

Date of Report 27th June 2018

Amended 16th OCT 2018

PREPARED BY

Tarranne Pty Ltd, Trading As

McArdle and Sons Pro Tree Services (since 1956)

ACN 094 297 408

PO Box 4060 Tamworth NSW Phone: 02 6769 0372

CONSULTING ARBORIST

Dan McArdle

Level 5 Arborist, Dip Arboriculture, Dip Agriculture

Licence No: TCAA:99/1003/14

Mobile 0418 165 650

E: danmcardle@mcardleandsons.com.au



TABLE OF CONTENTS

INTRODUCTION	3
AIMS	3
METHODOLOGY	3
THE SITE	4
SUMMARY	5
MAPS	7
TREE SURVEY	9
TREE ANALYSIS PHOTOS	25
DISCUSSIONS	26
CONCLUSION	29
RECOMMENDATIONS	30
GLOSSARY	31
BIBLIOGRAPHY	32
SECTION II APPENDIX A (TULE)	33
APPENDIX B HEALTH AND STRUCTURAL CONDITION	34
APPENDIX C HERITAGE ITEM L-11	35
APPENDIX D HERITAGE MAP ITEM 1049	36
APPENDIX E TREE LOCATION MAP(FIG 2)	37
APPENDIX F TREE PLANTING SPECIFICATIONS	38
APPENDIX G INDIGENOUS TREE SPECIES LIST	39
APPENDIX H Limited Evaluation	40
APPENDIX I Tree management Guidelines	41
APPENDIX J Disclaimer	42

INTRODUCTION

NBRS Architecture has commissioned McArdle and Sons to conduct a Tree Assessment and Report relating to 185 tree items within the development area of the Armidale Secondary College Redevelopment (AHSR) SSD 9095 located at 158-182 Butler St, Armidale NSW.

Mr Dan McArdle holds the qualification of AQF level 5 Consulting and Climbing Arborist, and conducted the evaluation using Visual Tree Assessment (VTA) method and best industry practices. The systems are in accordance with industry best practice and impact assessments are based upon the Australian Standards, Risk Management ISO 3100-2009 and guidelines set down by TCAA of Australia.

GENERAL SCOPE SSD 9095

The Project is for an up grade and expansion of Armidale Secondary College including the addition of new teaching spaces and upgrade to core facilities. The redevelopment of Armidale Secondary College will include 79 teaching spaces (an additional 30 teaching spaces) and will accommodate 1580 students (an increase of 1000)

AIMS

The aim of this report is to:

- To inspect and collect data on all trees in the proposed construction area of the development site.

METHODOLOGY

The collection of data is performed in the field by an AQF Level 5 arborist. The assessment summaries the species, height and diameter, the trees health and structural condition for each trees, hazards, Tree useful life expectancy and retention categories were assigned to each tree.

Collect data to determine tree protection zones and structural root zones of trees that can be affected by construction.

Testing on site may include:

Mallet sounding, non-invasive testing for hollows by probing of cavities and white ant infestation and or other. Invasive tests will determine depth of decay around cavities.

All inspections and testing is ground based. It should be noted that this Tree Assessment Report cannot be considered final until all aerial inspections if noted in the tree survey have been completed, as these may reveal further defects.

This data was recorded in a Tree Survey Table and various assessment methods were used including:

1. *Tree Useful Life Expectancy (TULE) (Burrell Approved TCAA use 2014).* The rating is of the expected life span of the tree and takes into account age, life span of the species, local environmental conditions, location, and tree safety.
2. *Health & Structural Condition of Tree Assessment.* This describes the vigour and vitality of the tree.
3. *Tree Hazard & Site Assessment.* This assessment identifies structural defects that predispose a tree to failure located near a target. It is a useful WH&S requirement. *(Only comments have been included in this report)*
4. Some trees have special restrictions including cultural, historical or threatened category and may be reviewed as part of this report or further reporting.

THE SITE

The collection of data was comprehensive and inspections were conducted on 15th May 2018. Only trees with in the specific site have been surveyed and referenced in this report. Following inspection was conducted on 26th June 2018.

At the time of the inspection the trees have been experiencing severe dry period of time due to the drought. Several trees contain hollows and possible habitat.

HERITAGE

Armidale High School is noted on map HER_002AAA LEP 2012 (*classification general*) Item I049. (Appendix D).

Schedule 5 Environmental heritage Part: 1 Heritage items of the Armidale Dumaresq LEPs 2012 relates to heritage conservation and identified Armidale High School 158-182 Butler St Armidale as Item I049 (Classification General).

Following up Inspection was completed on June 26th 2018.

Heritage : *Original Circa 1921 2 storey building and grounds.*
Armidale High School 158-182 Butler St Armidale Item 1049

Lot 1 ,DP 196298 ; Lot 704,DP 755808;Lots 1 and 2 ,Section 49,DP 758032;Lot 1 ,Section 161,DP758032: Lot 1151,DP 821627:Lot 7005 DP 1052246.

Applicable DCP 2012 Section 2 chapter 2.2

Development Control Plan 2012 Section 2 chapter 2.2 Tree Preservation Effective date 26th June 2013 Ref 1.4 Heritage items and Heritage conservation area.(*extract from DCP 2012- Tree Preservation 1.4*) and further information Clause 5.10 of LEP 2012.

It is also noted the 6m exemption is not applicable on heritage listed items or sites

MEMORIALS

Located on the site are 2 X trees (tree numbers 104 & 122) indicating memorial trees, at ground level Stone and Plaque exist.

MATURE TREES: Significant tree planting of *Ulmus procera*, *Pinus radiata* *Cyprus species*, *Eucalyptus species*, *Populus lombardy*, *Populus alba*, *Plantus x acerifolia* *Quercus species* and *Cedrus deadara form significant heritage L-11(appendix C)*

SMALL TREES & SHRUBS: *Pistacia chinensis*, *Fraxinus species* and *Pyrus species*.
These are all located on site and add to the amenity of the area.

ACCESS

All areas of the school are accessible to students and or staff /visitors, most of the trees are located in these assessable areas where people movements can be in numbers.

EXISTING TREE AND REMEDIATION'S

All trees have been tagged and assigned a number and referenced on the Tree Location Map Appendix E (fig2) of its approximate location on the site.

Where noted in the Tree Survey several trees have significant faults and or require remediation of the canopy for retention or removal, this tree survey is not including a risk assessment and only attention is noted where a fault or structural damage / dead wood is present.

SUMMARY

NBRS Architecture has commissioned McArdle and Sons to conduct a Tree Assessment and Report relating to 185 trees items within the development area of the Armidale Secondary College Redevelopment (AHSR) SSD 9095 located at 158-182 Butler St, Armidale NSW.

Inspections were conducted on 15th May 2018 and 26th June 2018. Only trees within the specific site have been surveyed and referenced in this report.

Mr Dan McArdle holds the qualification of AQF level 5 Consulting, conducted the evaluation using Visual Tree Assessment (VTA) method and best industry practices.

All trees have been tagged and assigned a number and referenced on the (Appendix E) Tree Location Map (fig2) of its approximate location on the site.

Where noted in the Tree Survey several trees have significant faults and or require remediation of the canopy for retention or removal, this tree survey is not including a risk assessment and only attention is noted where a fault or structural damage / dead wood is present.

SITE

Armidale Regional Council (ARC) was contacted on the 18th May 2018 regarding heritage clarification, information has been forthcoming from ARC's Mr Richard Single Project Officer - Parks and Gardens information of item 1049 and Item L-11 was returned and included in this report.

Heritage Map Her_002 AAA attached (Appendix D)

Heritage : Clause 5.10 of LEP 2012 relates to heritage conservation and identifies when development requires approval and the matters that need to be considered and addressed.

Development Control Plan 2012; Section 2 chapter 2.2 Tree Preservation Effective date 26th June 2013 Ref 1.4 Heritage items and Heritage conservation area.

Heritage Items I049

Original Circa 1921 2 storey building and grounds.

Armidale Secondary College 158-182 Butler St Armidale, Item I049 (Appendix D) [Lot 1 ,DP 196298 ; Lot 704,DP 755808; Lots 1 and 2 ,Section 49,DP 758032; Lot 1 ,Section 161,DP758032: Lot 1151,DP 821627: Lot 7005 DP 1052246.](#)

All trees and shrubs and the grounds are subject to Armidale Dumaresq Local Environmental Plan 2012, Heritage item L-11/ (*not located on the Schedule 5 Environmental heritage, Part 1 Heritage items list*)

Data sheet of a heritage study commissioned by Armidale City Council 1990 that directly identifies trees considered to be significant to Armidale High School Attached (Appendix C).

CONCLUSIONS

The amenity of the site is consistent with the surrounding area, individual **tree tag numbers (63)** indicated from the Tree Removal / Retain Plan (fig 3) page 8, **representing a total of (89) tree removals , 45 of these trees are also specified in the Early Works.**

RETENTION VALUE OF TREES SPECIFIED FOR REMOVAL ARE AS FOLLOWS:

- HIGH: 1, 2, 3, 7, 8, 42, 121, 122*,127 (hedge) ,131 (9 x trees) and 138. **(11 Tag numbers representing 19 x Tree removals).....19 trees**
- Medium: 4, 5, 6(3 x trees), 10, 11, 12, 13, 22,23 (2 of 11 tree) 39 (2 x trees)47 , 50(2xTrees) 55,89,94, 95, 96, 107, 123, 124, 125, 126 (11xTrees)129, 130, 132, 133, 134, 137 (2xtrees) 139, 140, 141 and 142. **(32 tag numbers representing (48 x Tree removals)..... 48 trees**
- Low: 9 (2x trees) 15 , 18 (1of 4) 26, 46 ,48 (2xtrees), 49 ,54, 56, 80, 87,88, 100, 101, 102, 110,117, 128, 135 and 136. **(20 tag numbers representing 22 x Tree removals)..... 22 trees**

Removal of several High Retention trees has an impact on the tree amenity of the site, trees 7 & 8 form entrance and trees 127hedge & 131 group plantings in formation.

The medium and low retention are replaceable and replanting is an option.

EARLY WORKS:

Tree to be removed; 42, 46, 47, 48 (2xtrees) 49, 50 (2xtrees) 54, 55, 56, 88, 89, 96, 121, 122, 123, 124, 125, 126 (11 x trees) 127, 128,129, 130, 131 (9 x trees) 132, & 133= **45 trees (early works removals).**

HABITAT

Hollows were observed in some trees on the site, trees listed for removal appeared not to have habitat hollows or activity. Ecologist to confirm habitat activity.

TREE PROTECTION

Tree Protection is required for the following trees:

19,23 (9 remaining trees),51,52,53,57,58,59,60,61,83,84,85,86,92,93,97,98,99,118,119 &120, Install tree protection fencing prior to any construction work, all fencing must comply with AS 4970 2009 Protection of Tree on Development Sites.

All measurements for required TPZ are noted in the Tree Survey.

SPECIAL NOTES:

Several trees have been identified with structural faults or other and I have made comment in the Tree survey ie; Trees 46,105,118 and 122* (*Memorial Tree*). This report does not include a risk assessment, only comments have been made as a point of reference to the trees condition and TULE rating applied. No Indigenous trees on site are listed as a threatened species.

Development Consent is required from Armidale Regional Council for trimming or removal of trees on the Armidale Secondary College site.

Further information regarding this report please contact our office on 02 6769 0372

Dan McArdle Dip Arb,Dip Ag
McArdle and Sons



HERITAGE

HERITAGE MAP: Fig 1(courtesy NBRS Architecture)

TREE SURVEY

Tree No.	Location	Scientific & Common Name	Height (m)	Crown spread (m)	DBH (cm)	Condition of Tree (Health & Structure) (Defect & Measurements) Retention Value	Basal Flare (cm)	SRZ (m) Radius	TPZ (M) Radius	TULE & Retention Value	OBSERVATIONS RECOMMENDATIONS
1	In car access	Fraxinus excelsior	10	11	69	Mature, Good Condition, Heavily Pruned lower branch	80			A2 High	Tree Indicated for Removal Tree Removal / Retain Plan
2	Not affected	Cedrus deadara	6	10	30	Semi-Mature, Good Condition	38			A2 High	Tree Indicated for Removal Tree Removal / Retain Plan
3	Not affected	Cedrus deadara	5	9	28	Semi-Mature, Good Condition	35			A2 High	Tree Indicated for Removal Tree Removal / Retain Plan
4	Not affected	Eucalyptus crenulata Silver Gum	5	6	18	Mature, Good Condition	25			A2 Medium	Tree Indicated for Removal Tree Removal / Retain Plan
5	Not affected	Fraxinus excelsior	5	6	18	Semi-Mature, Good Condition	28			A2 Medium	Tree Indicated for Removal Tree Removal / Retain Plan
6 group 3	Not affected	Eucalyptus spp.	2	7	15	Immature, Good Condition	22			A2 Medium	3x Trees Indicated for Removal Tree Removal / Retain Plan
7	Not affected	Quercus robur, English Oak	12	12	50	Mature, Good Condition, Minor Dead Wood, Significant tree	60			A2 High	Tree Indicated for Removal Tree Removal / Retain Plan
8	Not affected	Quercus robur, English Oak	12	12	50	Mature, Good Condition, Minor Dead Wood, Significant Tree	62			A2 High	Tree Indicated for Removal Tree Removal / Retain Plan
9 group 2	Not affected	Pistacia chinensis	3	6	12	Semi-Mature, Good Condition but Poor Development/Habit	30			D2 Low	2x tree Indicated for Removal Tree Removal / Retain Plan

10	Not affected	Eucalyptus dalrympleana, Mountain White Gum	3	9	15	Juvenile, Good Condition, Union poor form	25			A2 Medium	Tree Indicated for Removal Tree Removal / Retain Plan
11	Not affected	Pistacia chinensis	4	6	20/20	Semi-Mature, Good Condition	45			A2 Medium	Tree Indicated for Removal Tree Removal / Retain Plan
12 group 2	Not affected	Quercus robur, English Oak	20	6	10	Juvenile, Good Condition	2			A2 Medium	Tree Indicated for Removal Tree Removal / Retain Plan
13	Not affected	Pistacia chinensis	4	6	25	Semi-Mature, Good Condition	28			A2 Medium	Tree Indicated for Removal Tree Removal / Retain Plan
14 group 2	Not affected	Pistacia chinensis	7	6	18/18	Mature, Good Condition but Poor Development/Habit	40			A2 Medium	Retain
15	Not affected	Liquidambar styraciflua	15	6	15	Semi-Mature, Good Condition	22			C4 Low	Unstable, Moving in ground REMOVE
16 group 2	Not affected	Fraxinus Claret Ash	4	6	15	Semi-Mature, Good Condition	19			A2 Medium	Retain
17	Not affected	Pistacia chinensis	6	6	26	Mature, Good Condition	35			A2 Medium	Retain
18 group 4	Not affected	Fraxinus Claret Ash	4	6	25	Mature, Good Condition but Poor Development/Habit	38			D3 Low	1 x Dead tree in group, Removal of dead tree only.
19	In car access, Other	Quercus robur, English Oak	14	12	30x3	Mature, Good Condition, Co-dominate Stem	90	3.17	6.24	A2 High	Retain TREE PROTECTION REQUIRED
20	Not affected	Eucalyptus globulus, Tasmanian Blue Gum	5	6	20	Immature, Good Condition, Lean to North	28			D2 Low	Roots Exposed
21	Not affected	Eucalyptus globulus,	9	12	35	Semi-Mature, Good Condition	51			A2	Retain

		Tasmanian Blue Gum								Medium	
22	Not affected	Liquidambar styraciflua	2	6	15	Immature, Good Condition	22			A2 Medium	Remove
23 group 11	Not affected	Casuarina	4	9	15	Immature, Good Condition	25			A2 Medium	(Retain 9 of the 11 trees) Removal 2 only closet to Building
24	Not affected	Eucalyptus saligna, Sydney Blue Gum	10	12	40	Mature, Good Condition	56			A2 High	Retain
25 group 15	Not affected	Casuarina	4	8	20	Immature, Good Condition	30			A2 Medium	Group Planting Retain
26	Not affected	Casuarina	5	8	25	Semi-Mature, Physical Damage at Union Split	35			C4 Low	Remove .Split at Union significant damage
27	Not affected	Eucalyptus spp	6	7	20	Immature, Good Condition	30			A2 Medium	Retain
28	Not affected	Eucalyptus dalrympleana, Mountain White Gum	3	7	20	Semi-Mature, Good Condition	30			A2 Medium	Retain
29	Not affected	Eucalyptus dalrympleana, Mountain White Gum	3	7	20	Semi-Mature, Good Condition but Poor Development/Habit	30			A2 Medium	Retain
30	Not affected	Eucalyptus globulus, Tasmanian Blue Gum	4	8	15/15	Semi-Mature, Good Condition but Poor Development/Habit	35			D2 Low	Retain
31	Not affected	Eucalyptus globulus, Tasmanian Blue Gum	7	10	40	Mature, Good Condition	55			A2 Medium	Retain
31 a	Not affected	Eucalyptus dalrympleana, Mountain White Gum	8	3	15	Immature, Good Condition	23			A2	Retain

32	Not affected	Cuspressus spp spp.									Small black fruit
33	Not affected	Eucalyptus dalrympleana, Mountain White Gum	3	8	25	Semi-Mature, Good Condition, Parasite Vine Present	32			A2 Medium	Retain, Prune mistletoe
34	Not affected	Angophora floribunda, Rough-barked Apple	3	9	15/15	Semi-Mature, Good Condition but Poor Development/Habit	30			A2 Medium	Retain
35	Not affected	Eucalyptus dalrympleana, Mountain White Gum	2	6	15	Immature, Good Condition	22			A2 Medium	Retain
36	Not affected	Eucalyptus dalrympleana, Mountain White Gum	5	9	25	Semi-Mature, Good Condition, Parasite Vine Present	30			A2 Medium	Retain, Prune eye stick
37	Not affected	Casuarina	3	8	20	Semi-Mature, Good Condition	35			A2 Medium	Retain
38	Not affected	Cuspressus spp	2	12	35	Mature, Good Condition	50			A2 Medium	Retain
39 group 2	Not affected	Eucalyptus spp.	2	10	25	Semi-Mature, Dead				C4 Low	Remove
40	Not affected	Fraxinus excelsior Golden ash Golden ash,	6	10	30	Mature, Good Condition	45			A2 Medium	Retain
41	In car access, Park	Fraxinus excelsior Golden ash	12	12	50	Mature, Good Condition	80			A2 High	Retain
42	Not affected	Fraxinus excelsior Golden ash,	22	15	140	Mature, Good Condition	130			A2 High	EARLY WORKS REMOVAL
43	Not affected	Salix Willow	12	15	80	Mature, Moderate Condition, Cavity at 3m	960			D2 Low	Canopy Reduction, Cavity Inspection

44	Not affected	Ulmus procera	6	8	Multi	Suckers				A2 Low	Small leaf
45	Not affected	Ulmus procera	12	14	Multi	Mature, Good Condition but Poor Development/Habit	110			D2 Medium	Retain
46	Not affected	Cuspressus spp spp.	7	8	30/20	Mature, Moderate Condition	60			D3 Low	EARLY WORKS REMOVAL
47	Not affected	Eucalyptus cinerea, Argyle Apple	14	16	90	Mature, Good Condition, Physical Damage at 12m. Significant Tree	110			D2 Medium	EARLY WORKS REMOVAL
48 group 2	Not affected	Allocasuarina torulosa, Rose She-oak	6	12	50	Mature, Good Condition but Poor Development/Habit, Poor Trunk Union	68			D3 Low	EARLY WORKS REMOVAL Removal 2 trees
49	Other – Path	Cuspressus spp spp.	10	14	30x3	Mature, Good Condition but Poor Development/Habit, Physical Damage at Union Base	75			D3 C4 Low	EARLY WORKS REMOVAL
50group 2	Other – Path	Eucalyptus spp.	4	9	20	Immature, Good Condition	28	1.94	2.4	A2 Medium	EARLY WORKS REMOVAL Removal 2 trees
51	In car access	Eucalyptus spp.	20	16	80	Mature, Physical Damage at 5 x Branch, History of Fail	95	3.24	8.4	D3 Low	History of failing, Removal optional TREE PROTECTION REQUIRED
52	Not affected	Eucalyptus spp.	4	9	35	Semi-Mature, Good Condition	45	2.37	4.2	A2 Medium	Retain TREE PROTECTION REQUIRED
53	Not affected	Eucalyptus nicholii, Narrow-leaved Black Peppermint	10	12	70	Mature, Parasite Vine Present	95	3.24	8.4	D2 Medium	Retain TREE PROTECTION REQUIRED
54	Not affected	Eucalyptus dalrympleana, Mountain White Gum	5	9	28	Mature, Good Condition but Poor Development/Habit, Re-growth off stump	40			D2 Low	EARLY WORKS REMOVAL
55	Not affected	Eucalyptus dalrympleana,	12	16	65	Mature, Good Condition	77			D2	EARLY WORKS REMOVAL

		Mountain White Gum								Medium	
56	Not affected	Eucalyptus dalrympleana, Mountain White Gum	12	14	50x3	Mature, Moderate Condition, Fungal Attack at 3m	120			A2 Low	EARLY WORKS REMOVAL
57	Not affected	Eucalyptus dalrympleana, Mountain White Gum	12	16	50x3	Mature, Moderate Condition	120	3.57	6.24	D2 High	Significant Dead Wood Prune TREE PROTECTION REQUIRED
58	Not affected	Cotoneaster	6	6	Multi	Mature, Good Condition but Poor Development/Habit	50	2.47	3.6	A2 Low	Retain TREE PROTECTION REQUIRED
59	Not affected	Quercus robur, English Oak	8	10	40	Mature, Good Condition	52	2.51	4.8	A2 High	Retain TREE PROTECTION REQUIRED
60	In car access	Cuspressus spp	14	16	110	Mature	160	4.03	13.2	D2 High	Retain TREE PROTECTION REQUIRED
61	Not affected	Lagunania Norfolk Island Hibiscus	3	6	15	Mature, Moderate Condition, Dead Wood Low	30	2	2	D2 Low	Prune Retain TREE PROTECTION REQUIRED
62	Not affected	Ulmus procera	4	8	25	Semi-Mature, Poor	50			D3 Low	Re-growth off stump
63	In car access	Ulmus procera	8	12	50	Mature, Good Condition	60			D2 High	Retain
64	In car access	Ulmus procera	8	12	50	Mature, Good Condition	60			D2 High	Retain
65	In car access	Ulmus procera	8	10	40	Mature, Moderate Condition	50			D2 High	Retain
66	In car access	Ulmus procera	10	12	50	Mature, Good Condition	70			D2 High	Retain
67	In car access	Ulmus procera	10	12	50	Mature, Good Condition	66			D2 High	Retain

68	In car access	Ulmus procera	10	10	40	Mature, Moderate Condition	60			D2 High	Retain
69	In car access	Ulmus procera	10	12	50	Mature, Moderate Condition, Physical Damage and Cavity at 1m	65			D3 High	Decayed Trunk, Reduce Crown. Retain
70	In car access	Ulmus procera	8	10	46	Mature, Moderate Condition, Physical Damage and Cavity at 1m, Habitat Tree	65			C4 High	Habitat, Reduce Crown. Retain 6 months inspection
71	In car access	Ulmus procera	8	10	45	Mature, Moderate Condition	60			D3 High	Retain
72	In car access	Ulmus procera	12	16	80	Mature, Good Condition	120			A2 High	Retain
73	In car access	Ulmus procera	8	10	45	Mature, Moderate Condition	60			D2 High	Retain
74	In car access	Ulmus procera	8	10	45	Mature, Moderate Condition	60			D2 High	Retain
75	In car access	Ulmus procera	8	10	40	Mature, Moderate Condition	58			D2 High	Retain
76	In car access	Ulmus procera	10	14	60	Mature, Moderate Condition	75			D2 High	Retain
77	In car access	Ulmus procera	12	12	70	Mature, Moderate Condition	83			D2 High	Retain
78	In car access	Ulmus procera	9	12	50	Mature, Moderate Condition	60			D2 High	Retain
79	In car access	Ulmus procera	10	14	60	Mature, Moderate Condition	80			D2 High	Retain
80	In car access	Ulmus procera	10	14	60	Dead	80			C4 Low	Removal not in construction

81	In car access	Ulmus procera	10	12	50	Mature, Moderate Condition	65			D2 High	Retain
82	In car access	Ulmus procera	10	12	50	Mature, Moderate Condition	65			D2 High	Retain
83	Not affected	Quercus palustris, Pin Oak	8	12	45	Mature, Good Condition	60	2.67	5.4	A2 High	Retain TREE PROTECTION REQUIRED
84	Not affected	Ulmus procera	10	12	55	Mature, Moderate Condition	70	2.85	6.6	D2 High	Retain TREE PROTECTION REQUIRED
85	Not affected	Eucalyptus spp.	12	12	60	Mature, Good Condition, Heavily Pruned, Unbalanced Canopy	130	3.96	7.2	D2 Medium	½ Tree has been removed TREE PROTECTION REQUIRED
86	Not affected	Pyrus	10	8	40	Mature, Good Condition	45	2.37	4.8	A2 High	Retain TREE PROTECTION REQUIRED
87	Not affected	Fraxinus claret ash	6	8	30	Mature, Moderate Condition	50			D3 Low	Tree Indicated for Removal Tree Removal / Retain Plan
88	Not affected	Eucalyptus scoparia, Wallangarra White Gum	6	8	28	Semi-Mature, Physical Damage at Base	38			D3 Low	EARLY WORKS REMOVAL
89	Not affected	Eucalyptus scoparia, Wallangarra White Gum	5	9	25	Semi-Mature, Good Condition	30			A2 Medium	EARLY WORKS REMOVAL
90	NIL										
91	NIL										
92	Not affected	Ulmus procera	12	14	40/30	Mature, Moderate Condition, Co-dominate Stem	80	3.01	6	A2 Medium	Poor form
93	Not affected	Liquidambar	7	8	30	Mature, Moderate Condition, Heavily Pruned	42	2.3	3.6	D3 Low	Retain TREE PROTECTION REQUIRED

94	Not affected	Ulmus procera	10	12	30/30	Mature, Good Condition but Poor Development/Habit, Co-dominate Stem	60			C3 Medium	REMOVE
95	Not affected	Ulmus procera	10	12	20/40/30	Mature, Good Condition but Poor Development/Habit, Co-dominate Stem	100			C3 Medium	REMOVE
96	Other – Path	Cuspressus spp	8	14	30/40	Mature, Good Condition, Co-dominate Stem	80			A2 Medium	EARLY WORKS REMOVAL
97	In car access	Cuspressus spp	16	14	120	Mature, Good Condition	170	4.14	14.4	A2 High	Significant Tree Retain TREE PROTECTION REQUIRED
98	In car access	Cedrus deadara	5	10	30	Semi-Mature, Good Condition	40	2.47	3.6	A2 Medium	Retain TREE PROTECTION REQUIRED
99	In car access	Platanus x acerifolia, London Plane	14	12	66	Mature, Good Condition	100	1.5	7.92	A2 Medium	Retain TREE PROTECTION REQUIRED
100	Not affected	Cuspressus spp	12	12	40/40 50/30	Mature, Physical Damage at Base	100			C4 Low	Tree Indicated for Removal Tree Removal / Retain Plan . Structural defect at base
101	Not affected	Cuspressus spp	10	12	40/40	Mature, Physical Damage at Base	90			D3 C4 Low	Tree Indicated for Removal Tree Removal / Retain Plan. Structural defect at base
102	In car access, Path	Cuspressus spp	160	13	50	Mature, Heavily Pruned	6			D3 Low	Structural defect, Cavity at base. Tree Indicated for Removal Tree Removal / Retain Plan
103	Not affected	Quercus robur, English Oak	6	9	25	Mature, Good Condition	30			A2 Medium	Retain
104	Not affected	Liquidambar	3	9	28	Mature, Good Condition	35			A2 High	NOTE: Memorial Tree Retain

105	Other – Path	Cuspressus spp	19	16	280	Mature, 3x main leader fracture at base east	306			D2 High	Fractured at base monitor @ 6 month intervals Retain
106	Path	Pinus radiata Montereu pine	14	14	90	Mature, Good Condition	110			D2 High	Significant tree Retain
107	Path	Cuspressus sempervirens	3	12	Multi	Mature, Good Condition	65			A2 Medium	Retain
108	Path	Cuspressus spp	10	12	40/10	Mature, Good Condition but Poor Development/Habit	100			D2 Medium	Poor structural form Retain & inspect annual
109	Path	Cuspressus sempervirens	5	12	60	Mature, Good Condition	80			A2 Medium	Retain
110	Path	Populus alba	10	10	50/50	Mature, Moderate Condition, Lean, Cavity at base	80			C4 Low	Removal for safety reasons
111	Path	Cuspressus spp	12	9	60	Mature, Good Condition	90			A2 Medium	Retain
112	Path	Pinus radiata Montereu pine	8	12	50	Mature, Poor Condition, Declining	60			D3 Low	Retain
113	Path	Cuspressus spp	8	12	80	Mature, Good Condition	90			A2 High	Retain
114	Path	Eucalyptus cinerea, Argyle Apple	10	10	60	Mature, Good Condition, Parasite Vine Present	90			A2 High	Retain
115	Path	Cupressus spp	8	12	50	Mature, Good Condition, Suppressed Adjacent Tree	80			A2 Medium	Retain
116	Path, High Target	Populus lombardy	3	15	35	Mature, Good Condition	60			D2 Medium	Retain
117	Path, High Target	Populus lombardy	10	15	70	Mature, Poor Condition, Dieback is more than 20%	85			C4 Low	Remove

118	Path, In car access	Pinus radiata Montereu pine	18	16	78	Mature	90	3.17	9.36	D2 High	Dead Wood Require Pruning Retain TREE PROTECTION REQUIRED
119	Not affected	Cedrus deadara	7	14	25x3	Mature, Good Condition but Poor Development/Habit	100	3.31	5.6	A2 High	Retain TREE PROTECTION REQUIRED
120	Not affected, In car access	Pinus radiata Montereu pine	12	16	70	Mature, Good Condition	95	3.24	8.4	A2 High	Dead Wood in Canopy Retain TREE PROTECTION REQUIRED
121	Not affected, In car access	Pinus radiata Montereu pine	12	16	70	Mature, Good Condition	110			A2 High	EARLY WORKS REMOVAL
122	Not affected	Fraxinus excelsior Golden ash, Claret Ash	10	10	30/3 0	Mature, Good Condition, Co- dominate Stem	90			A2 High	EARLY WORKS REMOVAL
123	Not affected	Cupressus sempervirens	3	14	60	Mature, Good Condition	95			A2 Medium	EARLY WORKS REMOVAL
124	Not affected	Cuspressus spp	6	10	45	Mature, Good Condition	80			A2 Medium	EARLY WORKS REMOVAL
125	Not affected	Cuspressus spp	3	8	15	Immature, Good Condition	30			A2 Medium	EARLY WORKS REMOVAL
126 grou p 11	Not affected	Betula pendula White Birch	3	7	15	Immature, Good Condition	30			A2 Medium	EARLY WORKS REMOVAL Remove 11 trees
127	Not affected	Photinia	5	5	Multi	Mature, Good Condition				A2 High	EARLY WORKS REMOVAL
128	Not affected	Acer negunda	5	6	15	Semi-Mature	30			D2 Low	EARLY WORKS REMOVAL
129	Not affected	Arbutus unedo, Strawberry Tree	7	6	Multi	Mature, Good Condition	100			A2 Medium	EARLY WORKS REMOVAL
130	Not affected	Pistacia chinensis	8	7	25/2 5	Mature, Good Condition, Co-	60			A2	EARLY WORKS REMOVAL

		Chinese Pistachio				dominate Stem				Medium	
131 group 9	Not affected	Pyrus spp	6	9	30	Mature, Good Condition, Dead ones, Poor form	35			A2 High	EARLY WORKS REMOVAL Remove 9 trees
132	Path	Pyrus spp	5	6	20	Mature, Good Condition	28			A2 Medium	EARLY WORKS REMOVAL
133	Path	Pistacia chinensis	6	6	Multi	Mature, Good Condition	30			A2 Medium	EARLY WORKS REMOVAL
134	Not affected	Quercus robur, English Oak	3	6	15	Mature, Good Condition	25			A2 Medium	Tree Indicated for Removal Tree Removal / Retain Plan
135	Not affected	Eucalyptus crenulata	6	6	Multi	Mature, Moderate Condition	35			D2 Low	Tree Indicated for Removal Tree Removal / Retain Plan
136	Not affected	Eucalyptus crenulata Silver Gum	8	8	35	Mature, Poor Condition, Parasite Vine Present	45			D3 Low	Tree Indicated for Removal Tree Removal / Retain Plan
137 group 2	Not affected	Pistacia chinensis	5	6	15	Mature, Good Condition	30			A2 Medium	Tree Indicated for Removal Tree Removal / Retain Plan
138	Not affected	Quercus robur, English Oak	10	10	60	Mature, Good Condition	80			A2 High	Tree Indicated for Removal Tree Removal / Retain Plan
139	Not affected	Quercus robur, English Oak	5	6	15	Semi-Mature	25			A2 Medium	Tree Indicated for Removal Tree Removal / Retain Plan
140	Not affected	Cupressus	10	10	60	Mature, Good Condition	80			A2 Medium	Tree Indicated for Removal Tree Removal / Retain Plan
141	Not affected	Quercus palustris, Pin Oak	6	6	15	Semi-Mature, Good Condition	20			A2 Medium	Tree Indicated for Removal Tree Removal / Retain Plan

142	Not affected	Eucalyptus melliodora, Yellow Box	8	12	30/30	Mature, Moderate Condition, Cavity at base, Co-dominate Stem	90			A2 Medium	Tree Indicated for Removal Tree Removal / Retain Plan
	Field and wetlands										
143	Not affected	Populus alba	10	10	45	Mature, Moderate Condition, Crown dead	65			D3 Medium	Dead Wood throughout canopy Prune Retain
144	Not affected	Salix Willow	10	12	70	Mature, Moderate Condition	90			D2 Medium	Dead Wood throughout canopy Prune Retain
145	Not affected	Salix Willow	10	12	60	Mature, Moderate Condition, Cavity at base	90			D2 Medium	Dead Wood throughout canopy Prune Retain
146	Not affected	Salix Willow	9	12	80	Mature, Moderate Condition, Co-dominate Stem	95			D2 Medium	Dead Wood throughout canopy Prune Retain
147	Not affected	Salix Willow	6	12	30/30	Semi-Mature, Good Condition, Co-dominate Stem	45			D2 Medium	Dead Wood throughout canopy Prune Retain
148	Not affected	Salix Willow	12	12	85	Mature, Moderate Condition	100			D2 Medium	Dead Wood throughout canopy Prune Retain
149	Not affected	Salix Willow	9	12	30/15 15 15	Mature, Good Condition but Poor Development/Habit, Physical Damage at base	90			D2 Medium	Dead Wood throughout canopy Prune Retain
150	Not affected	Salix Willow	10	12	50	Mature, Moderate Condition	70			D2 Medium	Dead Wood throughout canopy Prune Retain
151	Not affected	Salix Willow	10	12	60	Mature, Moderate Condition	65			D2 Medium	Retain
152	Not affected	Cupressus	9	10	70	Mature, Moderate Condition	95			A2 Medium	Retain
153	Not affected	Cupressus	3	8	30	Semi-Mature, Poor Condition	45			D3	Retain

										Low	
154	Not affected	Cupressus	9	12	70	Mature, Good Condition	95			A2 Medium	Retain
155	Not affected	Cupressus	9	12	60	Mature, Good Condition	75			A2 Medium	Retain
156	Not affected	Salix Willow	8	10	60	Mature, Moderate Condition	80			D2 Medium	Retain
157	Not affected	Salix Willow	4	10	65	Mature, Moderate Condition	80			D2 Medium	Retain
158	Not affected	Salix Willow	5	10	50	Mature, Moderate Condition	75			D2 Medium	Retain
159	Not affected	Salix Willow	8	10	Multi	Mature, Moderate Condition	100			D2 Medium	Retain
160	Not affected	Eucalyptus spp.	10	12	40/2 5	Mature, Good Condition	80			A2 Medium	Retain
161	Not affected	Eucalyptus spp.	10	12	45	Mature, Good Condition	80			A2 Medium	Retain
162	Not affected	Eucalyptus spp.	8	9	35	Mature, Good Condition, Suppressed	45			A2 Medium	Retain
163	Not affected	Cuspressus spp spp.	19	12	30/3 0/40	Mature, Good Condition	110			A2 Medium	Retain
164	Not affected	Cuspressus spp spp.	12	12	70	Mature, Good Condition	90			A2 Medium	Retain
165	Not affected	Eucalyptus nicholii, Narrow-leaved Black Peppermint	10	12	50	Mature, Moderate Condition, Physical Damage and Cavity at Base	80			C4 Low	Retain & inspect annual or remove

166	Not affected	Cuspressus spp spp.	12	12	70	Mature, Moderate Condition, Co-dominate Stem	90			A2 Medium	Retain
167	Not affected	Eucalyptus nicholii, Narrow-leaved Black Peppermint	12	12	70	Mature, Good Condition	100			D2 Medium	Retain
168	Not affected	Eucalyptus nicholii, Narrow-leaved Black Peppermint	3	6	20	Mature, Moderate Condition, Parasite Vine Present	30			D3 Low	Prune. Retain
169	Not affected	Acacia decurrens, Black Wattle	10	10	30	Mature, Good Condition	60			D3 Low	Retain
170 grou p	Not affected	Acacias	6	15	Multi	Mature, Good Condition	30			D3 Low	Retain
171	Not affected	Eucalyptus spp.	3	8	15	Immature, Good Condition	25			A2 Low	Retain
172	Wet lands	Salix Willow	14	14	40 50 20	Mature, Good Condition	100			A2 Medium	Retain
173	Wet lands	Salix Willow	16	14	60	Mature, Good Condition	80			D2 Medium	Retain
174	Wet lands	Salix Willow	10	11	30x3	Mature, Good Condition	90			A2 Medium	Retain
175	Wet lands	Salix Willow	16	14	90	Mature, Good Condition	100			A2 Medium	Retain
176 grou p	Wet lands	Casuarina	8	10	30	Mature, Good Condition	40			A2 Medium	Retain
177	Wet lands	Salix Willow	18	12	95	Mature, Good Condition	120			A2 Medium	Retain Prune crown damage

178	Wet lands	Casuarina	5	9	20	Mature, Good Condition, Suppressed	40			A2 Medium	Retain
179	Wet lands	Eucalyptus spp.	8	10	40	Mature, Good Condition, Co- dominate Stem at 3m	60			A2 Medium	Retain
180	Wet lands	Eucalyptus spp.	8	12	40	Mature, Good Condition	65			A2 Medium	Retain
181	Wet lands	Eucalyptus spp.	3	6	15	Semi-Mature, Moderate Condition	20			A2 Low	Retain
182	Wet lands	Casuarina	8	14	30	Mature, Good Condition	40			A2 Medium	Retain
183	Wet lands	Willow	16	12	80	Mature, Moderate Condition, Physical Damage at 1m, Hollow	100			C4 Low	Retain if possible & inspect annual significant damage in base.
184	Wet lands	Willow	10	10	60	Mature, Moderate Condition, Physical Damage Crown	75			D3 C4 Low	Retain
185	Wet lands	Willow	12	14	70	Mature, Moderate Condition	90			D2 Low	Retain

TREE ANALYSIS PHOTOS



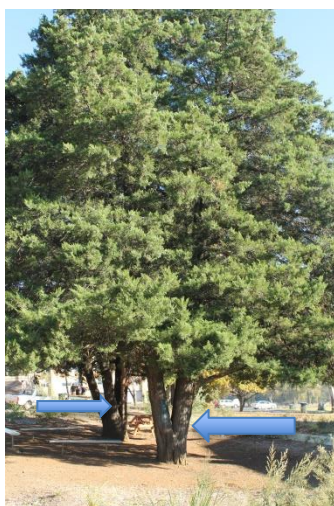
TREE 7-8 Quercus robur, Semi Mature x 2



TREE 47 Significant Tree Several Fail sites



TREE 49 Split base



TREE 100 & 101 Union separation



TREE 127 Photina plantings



Tree 105 fracture at union



DISCUSSIONS

Armidale High School was established in 1920, is a comprehensive high school including agriculture facility and is situated in generous grounds on the south side of Armidale.

All trees inspected have been tagged and assigned a number and referenced on the (Appendix E) TREE LOCATION MAP (fig 2) of its approximate location on the site.

- **Tree Useful Life expectancy** has been applied and rated in TULE column of the Tree Survey.
- **Tree Retention Value** (also in the same column above) applied at High, Medium and Low.
- **Tree protection zones/Structural zones** are listed for trees to be protected, all measurements are from the centre of the tree.(radius measure)

Where noted in the Tree Survey several trees have significant faults and or require remediation of the canopy for retention or removal, this tree survey is not including a risk assessment and only attention is noted where a fault or structural damage / dead wood is present, general tree maintenance is not part of the aims of this report.

Armidale Regional Council (ARC) was contacted on the 18th May 2018 regarding heritage clarification, information has been forth coming from ARC's Mr Richard Single Project Officer - Parks and Gardens information of item 1049 and Item L-11 was returned and included in this report.

The Armidale High School grounds are listed as (Classification General) heritage map Her_002AAA Appendix D.

Armidale Dumaesq Local Environmental Plan 2012

Current version for 20 April 2018 to date (accessed 22 May 2018 at 13:16)

Schedule 5 Environmental heritage. Part: 1 Heritage items.

ITEM 1049

Heritage : Original Circa 1921 2 storey building and grounds.

Armidale High School 158-182 Butler St Armidale,

Lot 1 ,DP 196298 ; Lot 704,DP 755808;Lots 1 and 2 ,Section 49,DP 758032;Lot 1 ,Section 161,DP758032: Lot 1151,DP 821627: Lot 7005 DP 1052246.

OriginalCirca; 1921 2 storey building and grounds.

- Applicable Armidale Dumaesq Local Environmental Plan 2012 Part 5.10
- Applicable DCP 2012 Section 2 chapter 2.2

Development Control Plan 2012 Section 2 chapter 2.2 Tree Preservation Effective date 26th June 2013 Ref 1.4 Heritage items and Heritage conservation area.(*extract from DCP 2012- Tree Preservation*)

General objective of chapter 2.2 Tree preservation Development Control Plan 2012 are to conserve the environmental heritage of Armidale and its surrounds by retaining healthy trees of the environment and aesthetic value, minimise injury to, or destruction of trees and native vegetation and to ensure proper consideration is given to trees, native vegetation in designing, planning and constructing development. Retaining viable samples of native vegetation and biodiversity values where ever practicable.

Facilitate the removal of undesirable exotics, noxious weeds, dangerous trees and any other inappropriate plantings, and replace these with suitable species.

Extract from DCP 2012- Tree Preservation Armidale Regional Council Section 2 chapter 2.2 Tree Preservation (23 June 2013)

1.4 Heritage items (trees, landscapes and grounds) and heritage conservation areas

Heritage items (including trees, landscapes and grounds) and heritage conservation areas are listed in Schedule 5 – Environmental Heritage of *LEP 2012*. For information on identifying Aboriginal objects or an Aboriginal place of heritage significance, please contact Council. Further information on heritage matters can be found in Clause 5.10 of *LEP 2012*, and elsewhere in this DCP.

It is also noted the 6m exemption is not applicable on heritage listed items or sites.

All trees, shrubs and gardens are applicable to the Schedule 5 Environmental heritage Part 1 Heritage items 1049.

SITE: (Specific tree notes)

Within the site there are 2 x memorial trees (104 & 122), further research regarding their significance has been undertaken with the high school administration and awaiting further information if available.

Tree 46 is not shown on the maps supplied for this report and located in the building zone.

Trees identified for removal on TREE REMOVAL PLAN (fig 3), of these trees; Tree 47 *E. cinerea* is significant in size, Trees 49, 101 & 102 have Structural splits at the unions.

There are no trees in wet lands that will be required for removal for construction, several trees have failed branches, structural related problems, dead wood and some trees are dead. No Tree Protection Zones have been mentioned in the Tree Survey for trees 143-185.

TREE PROTECTION

Tree protection is important in preventing physical damage to trees and their root systems, implementing protection fencing to AS 4970 2009. Demolition and reconstruction of the site is complex, access points require protection from impacts of branch breakage from high loads and compaction of soils by equipment impacting on tree health.

TREE PROTECTION ZONES AND STRUCTURAL ROOT ZONES (TPZ/ SRZ)

Within the Tree Removal / Retain Plan (Fig 3) page 8 trees have been identified for removal, the remaining trees will require protection at the defined TPZ measurement and fencing installed prior to any demolition or earthworks. TPZ are noted in the Tree Survey as radius measurements from the centre of the tree trunk, specifically relating to trees located within the building area and access points that may be impacted by machinery or excavations.

AMENITY REDUCED BY THE FOLLOWING

In terms of the trees numbered for removal they have little scientific historical, cultural or social value. Several species have a contribution to the landscape which will be removed. Replenishment of desirable tree species is required in order to ensure biodiversity is kept within the local environment.

VALUATION

The value for each tree is based on size, useful life expectancy, importance of position in landscape, presence of other trees, relation of the species to the garden setting, the form of the tree and in rare cases historical associations or botanical interest.

If these trees are reported as having historical, cultural, social or scientific value, in addition to any contribution for the landscape and scenic value of the land, then special consideration and further investigation is essential. The intrinsic value to public amenity and any contribution to the local ecosystem or to biodiversity must be noted.

Threatened species list has researched for the indigenous trees that are on site, they are not listed as threatened.

Tree 122* is noted in the tree is noted as a memorial tree planting.

Removal of several High Retention trees has an impact on the tree amenity of the site, trees 7 & 8 form entrance and trees 127 hedge & 131 group plantings in formation.

The medium and low retention are replaceable and replanting is an option.

CONCLUSIONS

General objective of chapter 2.2 Tree preservation Development Control Plan 2012 are to conserve the environmental heritage of Armidale and its surrounds by retaining healthy trees of the environment and aesthetic value, minimise injury to ,or destruction of trees and native vegetation and to ensure proper consideration is given to trees, native vegetation in designing ,planning and constructing development. Retaining viable samples of native vegetation and biodiversity values where ever practicable.

Facilitate the removal of undesirable exotics and noxious weeds, dangerous trees and any other inappropriate plantings, and replace these with suitable species.

The amenity of the site is consistence with the surrounding area, individual **tree tag numbers (63)** indicated from the Tree Removal / Retain Plan (fig 3) page 8,**representing a total of (89) tree removals , 45 of these trees are also specified in the Early Works.**

RETENTION VALUE OF TREES SPECIFIED FO REMOVAL ARE AS FOLLOWS:

- HIGH: 1, 2, 3, 7, 8, 42, 121, 122*,127 (hedge) ,131 (9 x trees) and 138. **(11 Tag numbers representing 19 x Tree removals)19 trees**
- Medium: 4, 5, 6(3x trees), 10, 11, 12, 13, 22, 23 (2 of 11 tree) 39 (2 x trees),47, 50(2xTrees) 55,89,94, 95, 96, 107, 123, 124, 125, 126 (11xTrees)129, 130, 132, 133, 134, 137 (2xtrees) 139, 140, 141 and 142. **(32 tag numbers representing (48 x Tree removals)..... 48 trees**
- Low: 9 (2x trees) , 15 , 18 (1of 4) 26, 46 ,48 (2xtrees) 49 ,54, 56, 80, 87,88, 100, 101, 102, 110,117, 128, 135 and 136. **(20 tag numbers representing 22 x Tree removals)..... 22 trees**

EARLY WORKS:

Tree to be removed; 42, 46, 47, 48 (2xtrees) 49, 50 (2xtrees) 54, 55, 56, 88, 89, 96, 121, 122, 123, 124, 125, 126 (11 x trees) 127, 128,129, 130, 131 (9 x trees) 132, & 133. **45 trees (early works removals).**

TREE PROTECTION

Tree Protection is required for the following trees:

19,23(9xremaining trees),51,52,53,57,58,59,60,61,83,84,85,86,92,93,97,98,99,118,119 &120, Install tree protection fencing prior to any construction work, all fencing must comply with AS 4970 2009 Protection of Tree on Development Sites.

All measurements for required TPZ are noted in the Tree Survey.

Development Consent is required from Armidale Regional Council as the site is classified as heritage (general) Schedule 5 Environmental Heritage, Part 1. Item 1049 and LEP 2012 (Clause 5.10).

RECOMMENDATIONS

Note: Development Consent is required from Armidale Regional Council for the pruning or removal of all trees and shrubs on the Armidale Secondary College site.

- 1 Install tree protection fencing prior to any construction work, all fencing must comply with AS 4970 2009 Protection of Tree on Development Sites. Tree Protection Zone measurements are noted in the Tree Survey as Radius from the centre of the tree.

Tree Protection fencing is required to be installed for the following trees:

19, 23(9 x remaining trees)51,52,53,57,58,59,60,61,83,84,85,86,92,93,97,98,99,118,119 &120, Install tree protection fencing prior to any construction work, all fencing must comply with AS 4970 2009 Protection of Tree on Development Sites.

All measurements for required TPZ are noted in the Tree Survey.

Signs must be erected on the fences "NO ENTRY" with the Project Arborist phone number.

- 2 Removal (total of tag numbers 63) representing a total **(89)** tree removals, **45 of these tree removals are specified for EARLY WORKS**, retention value High Medium Low and listed as follows:

TREES SPECIFIED FO REMOVAL ARE AS FOLLOWS :(High Medium Low are retention values)

- HIGH: 1, 2, 3, 7, 8, 42, 121, 122*,127 (hedge) ,131 (9 x trees) and 138. **(11 Tag numbers representing 19 x Tree removals)=19 trees**
- Medium: 4, 5, 6(3 x trees), 10, 11, 12, 13, 22,23 (2 of 11 tree) 39 (2 x trees) ,47, 50(2xTrees) 55,89,94, 95, 96, 107, 123, 124, 125, 126 (11xTrees)129, 130, 132, 133, 134, 137 (2xtrees) 139, 140, 141 and 142. **(32 tag numbers representing (48 x Tree removals)=48 trees**
- Low: 9 (2xtrees) , 15 , 18 (1of 4) 26, 46 ,48 (2xtrees) 49 ,54, 56, 80, 87,88, 100, 101, 102, 110,117, 128, 135 and 136. **(20 tag numbers representing 22 x Tree removals)= 22 trees**

EARLY WORKS:

Tree to be removed as Early Works only; 42, 46, 47, 48 (2xtrees) 49, 50 (2xtrees) 54, 55, 56, 88, 89, 96, 121, 122, 123, 124, 125, 126 (11 x trees) 127, 128,129, 130, 131 (9 x trees) 132, & 133= **45 tree as specified.**

- 3 A suitable qualified licenced AQF 3 Arborist contractor must be engaged to complete the works and all pruning work to the Australia Standards AS 4373 2007 Pruning of Amenity Trees. Also (see Safe work NSW engaging a contractor)
- 4 All tree waste can be mulched and stockpiled on site as per Environment Protection Authority (EPA) Raw mulch Order 2016. The generated mulch is to be used on site.
- 5 Excavations within the tree protection must be undertaken with the AQF 5 Consulting Arborist on site and or consult with the AQF 5 Arborist prior to any attempt to enter the enclosed TPZ's.
- 6 The development approval must include a tree planting programme to replace the trees of the same species being removed.

GLOSSARY

Crown: The width of the foliage in the upper canopy of the assessed tree to the four cardinal points.

Crown lifting: means the removal of the lower branches of the tree.

Crown thinning means the portion of the tree consisting of branches and leaves and any part of the stem from which branches arise.

Drip line: Where the canopy releases water shed from the foliage during precipitation.

DBH/Diameter: Diameter of trunk at 1.4meters in height of assessed tree.

Dead wooding means the removal dead branches from a tree.

Dieback: Tree deterioration where the branches and leaves die.

Flush cut: A cut that damages or removes the branch collar or removes the branch and stem tissue and is inconsistent with the branch attachment as indicated by the bark branch ridge.

Genus/ Species: The Genus and species of each tree has been identified using its scientific name. Where the species name is not known the letters species is used. The common name for trees may vary considerably in each area of geographical differences and so will not be used in the field survey.

Height:Height has been estimated to + / - 2 metres.

ISA: International Society of Arboriculture.

Maturity:Tree maturity has been assessed as over mature (last one third of life expectancy), mature (one third to two thirds life expectancy) and semi mature (less than one third life expectancy).

Remedial (restorative) pruning: includes: Removing damaged, Dead wood; trimming diseased or infested branches. Trimming branches back to undamaged tissue in order to induce the production of shoots from latent or adventitious buds, from which a new crown will be established.

Retention Value: Rating as High Moderate or Low. Determining factors and not limited to; health vigour, age habitat environmental ,landscape heritage etc.

SRZ- Structural Root Zone: An area within the trees root zone in which roots stabilize the tree. Roots cut in this zone can cause instability and lead to anchorage loss.

Structural Integrity: Describes the internal supporting timber. (Substantial to frail)

TULE- Tree Useful Life Expectancy: An estimation of the trees useful life expectancy using appropriate industry methods.

TPZ- Tree Protective Zone: This zone should be considered as optimal for tree growth and sustainability however the size of the zone is subjective and should be reassessed when individual design and construction methods are being discussed.

Tree Age: Trees have either been assessed as mature, immature or semi-mature.

Tree Numbering: All trees listed in the tree survey have been numbered and plotted

Vigour: This is an indication of the tree health. Trees have either been assessed as Good Vigour, Moderate Vigour or Poor Vigour.

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SECTION II APPENDIX A TULE – TREE USEFUL LIFE EXPECTANCY

McArdle and sons Categories	1 Long TULE	2 Medium TULE	3 Short TULE	4 Remove	5 No Potential for Retention REMOVE IMMEDIATELY	6 Small, Young or regularly clipped:
	Trees that appeared to be retainable at the time of assessment for more than 40 years with low level of risk	Trees that appeared to be retainable at the time of assessment for 15 to 40 years with and with low to medium level risk	Trees that appeared to be retainable at the time of assessment for 5 to 15 years with medium to high level of risk	Trees that should be removed within the next 5 years High to Very high level of risk	Trees that must be removed immediately. Very high to Extreme level of risk	Trees that can be easily transplanted or replaced.
A	Structurally sound trees located in positions that can accommodate future growth	Trees that may only live for between 15 and 40 more years	Trees that may only live for between 5 and 15 more years	Dead, dying, suppressed or declining trees through disease or inhospitable conditions.	Dead, dying or declining trees diseased or inhospitable conditions.	Small trees less than 5 meters in height
B	Trees that could be made suitable for retention in the long term by Intervention Works.	Trees that may live for more than 40 years, but would need to be removed for safety or Nuisance reasons	Trees that may live for more than 15 years, but would need to be removed for safety or nuisance reasons	Dangerous trees through instability or recent loss of adjacent trees	Dangerous trees through instability or recent loss of adjacent trees	Young trees less than 15 years old but over 5 meters in height
C	Trees of special significance for historical, commemorative or rarity reasons that would warrant extraordinary efforts to secure their long term retention	Trees that may live for more than 40 years, but should be removed to prevent interference with more suitable individuals or to provide space for new planting	Trees that may live for more than 15 years, but should be removed to prevent interference with more suitable individuals or to provide space for new planting	Dangerous trees through structural defects including cavities, decay, included bark, wounds or poor form	Dangerous trees through structural defects including cavities, decay, included bark, wounds or poor form	Trees that have been regularly pruned to artificially control growth
D		Trees that could be made suitable for retention in the medium term by Intervention Works.	Trees that require substantial Intervention Works, and are only suitable for retention in the short term	Damaged trees that are clearly not safe to retain	Damaged trees that are clearly not safe to retain and must be removed immediately	
E				Trees that may live for more than 5 years, but should be removed to prevent interference with more suitable individuals or to provide space for new planting	High Toxicity Allegheny trees, asthmatic and poisonous trees and must be removed immediately.	
F				Trees that may cause damage to existing structures within 5 years	OTHER with legitimate explanation to be removed immediately	
G				Trees that will become dangerous after removal of other trees for reasons given in 1A-1F		
INSPECTION FREQUENCY	Inspection frequency 1-5 Years by competent inspector unless event monitored.	Inspection frequency 1-5 Years by competent inspector unless event monitored.	Inspection frequency 1-3 years by competent inspector unless event monitored.	Inspection frequency to 1 year by competent inspector unless event monitored.	1-7 days by competent inspector and event monitored	Inspection frequency Biannually by competent inspector

TULE Adapted with permission Jeremy Burrell 2014 for TCAA licensed Climbing Arborist.

APPENDIX B HEALTH & STRUCTURAL CONDITION OF TREE - Visual

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Health & Structural Condition of Tree	
1.	<i>J- Juvenile; Im- Immature; SM-Semi- Mature; M-Mature</i>
2.	Excellent Condition
3.	Good Condition but Poor Development / Habit
4.	Dieback is more than 20%. 4b Epicormics
5.	Sparse Foliage Crown 5b Unbalanced Canopy
6.	Physical Damage
7.	Cavity
8.	Lean
9.	Heavily Pruned
10.	Inclusions
11.	Damage to roots
12.	Insect Damage 12b Borers
13.	Termite Damage
14.	Fungal Attack
15.	Parasitic Vine Present
16.	Damage by Climbing Plant
17.	Habitat Tree

Developed by Claus Mattheck in: *The Body Language of Trees*(1994) which have adapted versions from Hornsby Shire Council.

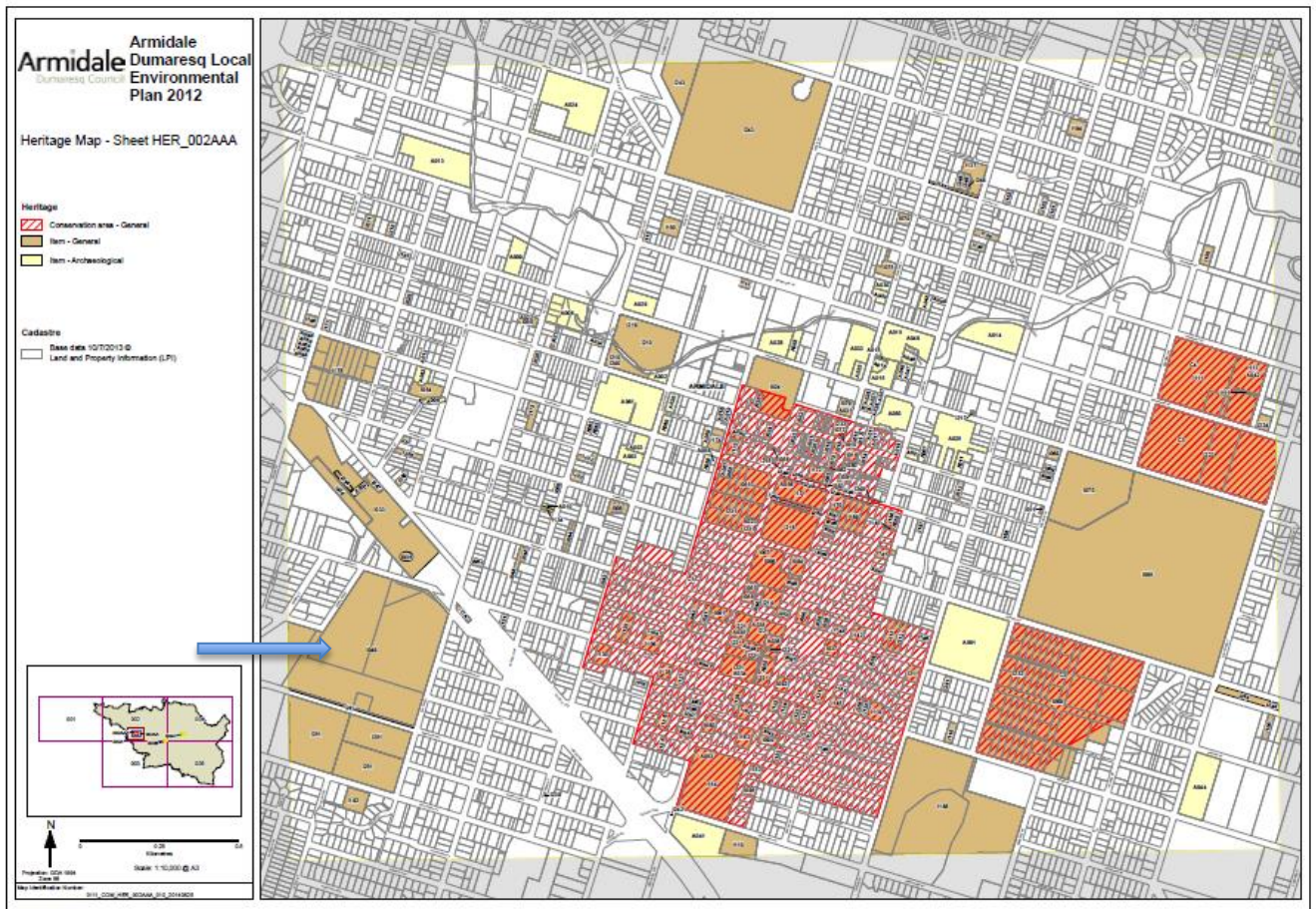
APPENDIX C Heritage item L-11 (Trees inclusive of Schedule 5 Environmental heritage Part 1 Heritage items Item 1049)

Data sheet that directly identifies trees considered to be significant to Armidale Secondary College.

ARMIDALE HERITAGE STUDY		Item	Photograph
for Armidale City Council by Perumal Murphy Pty. Ltd.		L 11	L1-17 L6-2
1990		Precinct	
Name ARMIDALE HIGH SCHOOL		Date 15-2-90	
Location BUTLER STREET		Survey By W.W.A.	
Title Reference			
SCHOOL ESTABLISHED IN 1930'S. MATURE TREES INCLUDE RADIATA PINES (TO 25M., 1M. DIAM), CYPRESS SPECIES & EUCALYPTS ABOUT FORTY YEARS OLD. ALSO OF NOTE IS A DIAGONAL AVENUE OF SEMI-MATURE ELMS (ULMUS PROCEPS) POSSIBLY 60 YEARS OLD. RUNS BETWEEN PLAYING FIELDS ON DIFFERENT LEVELS. OTHER TREES INCLUDE LOMBARDY & SILVER POPLARS, FIR & PLANE TREES. ALSO WILLOWS. TREES PLANTED 1931 NEW SITE WORKS WILL REQUIRE ADEQUATE RESTORATION. INSTITUTIONAL LANDSCAPING FROM ABOUT THE 1950'S? POSSIBLY EARLIER, OF LOCAL SIGNIFICANCE.			
Period: ☐ Pre-1890 ☐ 1915-45 ☐ 1890-1915 ☒ 1945-			
Date: Source:			
Condition: ☐ Good ☒ Fair ☐ Poor			
Current listings: ☐ AHC ☐ HC ☐ NT ☐ RALA/OT			
Street context: ☒ Positive contribution ☐ Neutral ☐ Out of Character			
PHOTO L6-2			

APPENDIX D

Armidale Dumaresq Local Environmental Plan 2012 Heritage Map Her_002AAA



Arrow indicating Heritage Item 1049 (General) [Armidale High School 158-182 Butler St Armidale.](#)

Appendix E

Tree Location Map (Fig 2)



APPENDIX F TREE PLANTING SPECIFICATIONS AND MAINTENANCE

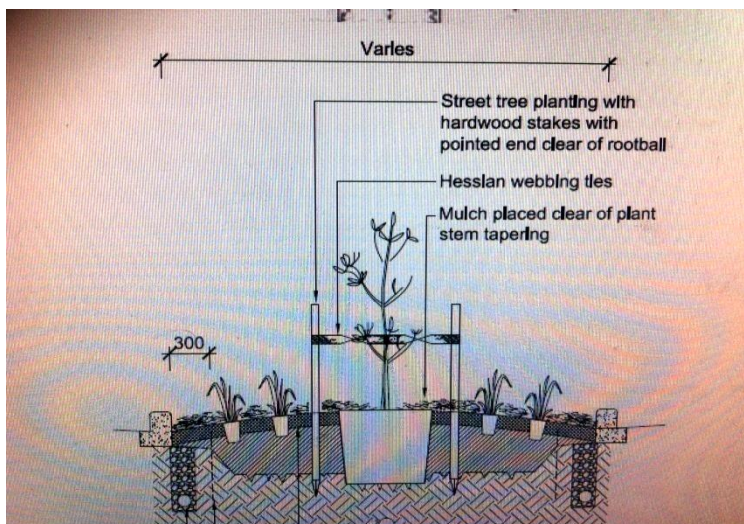
McArdle & Sons Pro Tree Service

Before planting, careful consideration should be given to the location of trees and shrubs to minimise future problems. A basic guide for planting follows:

1. Don't plant too close to buildings or in-ground pools or plant large trees too close together: Determine the height and canopy of trees when fully grown. Allow room for root growth (at least twice the height of the tree). Large trees should be planted at least three metres from buildings.
2. Check when planting under wires or over drainage lines: Determine the mature size of the tree and the size and nature of its root system.
3. Consider your neighbours when choosing plants: Consider the effect on neighbouring properties (i.e. shading, loss of views, impact on foundations, fences and services).
4. Use trees to provide your home with summer shade and/or winter sun: Plant deciduous trees (suitable to the climate and soils of this Shire). Consider the summer and winter shadows of evergreen trees.
5. Don't grow climbers on trees: Climbers can strangle trees, leading to the tree's eventual death.
6. Retain and protect as many trees as possible when building or extending your home. (This will be a Council requirement).
7. Use locally native and non-invasive species in your garden: Increase the success rate of your garden. Attract native fauna to your garden. Reduce the amount of watering required.
8. Don't excavate or alter the ground level around trees: Can cause root damage or starving of the roots. Can cause limb drop, instability or tree death. Substantially altering soil level within three metres of the trunk is in breach of the Tree Preservation Order.
9. When buying plants, check their characteristics: Check on mature size, shade characteristics, potential for roots to cause damage, flowers, fruits and pollen, to determine their suitability.

Mature trees do need maintenance: Remove or trim misshapen branches. Check for fungal rots or other diseases. If in doubt, contact Council for a tree inspection or contact an experienced Arborist. Indiscriminate lopping can be dangerous to your safety and the health of the tree.

Staking of trees should be carried out similar to the diagram opposite.



APPENDIX G INDIGENOUS TREE REPLENISHMENT

McArdle & Sons Pro Tree Service

Indigenous trees.

Tree list Botanical Name	Common Name
Eucalyptus camaldulensis	River Redgum
Eucalyptus albens	White box
Eucalyptus dalrympleana	Mountian gum
Eucalyptus melliodora	Yellow box
Eucalyptus blakelyi	Blakely's red gum
Eucalyptus bridgesiana	Apple box
Eucalyptus dealbata	Forest red gum
Eucalyptus macarthurii	Paddys River Box
Eucalyptus macrorhyncha	Red stringybark
Eucalyptus pauciflora	Snow gum
Eucalyptus polyanthemos	Red box
Eucalyptus rossii	Scribbly gum
Eucalyptus sideroxylon	Red ironbark
Eucalyptus viminalis	Ribbon gum

Appendix H

LIMITED EVALUATION EVALUATION SCHEDULE

SITE: Armidale Secondary College

Adapted from the ISA Tree Hazard Evaluation Form

TREE CHARACTERISTICS			
Species: NOTED IN TREE SURVEY TABLE			
TREE HEALTH			
Foliage: NOTED IN TREE SURVEY TABLE		Wound-wood: NOTED IN TREE SURVEY TABLE	
Vigour: NOTED IN TREE SURVEY TABLE		Deadwood %: NOTED IN TREE SURVEY TABLE	
Form: NOTED IN TREE SURVEY TABLE		In Decline: NOTED IN TREE SURVEY TABLE	
Dead Tree: NOTED IN TREE SURVEY TABLE		Age Class: NOTED IN TREE SURVEY TABLE	
ROOT ZONE		TRUNK DEFECT	CROWN DEFECT
NOTED IN TREE SURVEY TABLE		NOTED IN TREE SURVEY TABLE	NOTED IN TREE SURVEY TABLE
TARGET RATING			
Type: NOTED IN TREE SURVEY TABLE	Location: NOTED IN TREE SURVEY TABLE Target Rating: NOTED IN TREE SURVEY TABLE		
TREE CONDITIONS			
Tree Defects: NOTED IN TREE SURVEY TABLE Stem Lean: NOTED IN TREE SURVEY TABLE Decay: NOTED IN TREE SURVEY TABLE			
HAZARD ABATEMENT		CATEGORY	
Remove Tree: Stated	Prune: Stated and specified	Needs further REMEDIATION Inspection: Stated	By: Time frame specified in discussion.

APPENDIX I TREE MANAGEMENT NOTES

McArdle & Sons Pro Tree Service

It is important to **minimize compaction of the soil** around the drip line. We recommend no heavy machinery operate within the three metres area of the preserved trees. For smaller machines we recommend restricted access within the Tree Protection Zone and also limit movement in this area with smaller type machines.

Rooting hormone is recommended at the prescribed rate around the excavated area and inside the affected trees drip line to promote healthy recovery. Continue the use treatments associated with root growth and vigor. Apply hessian bagging over excavated areas inside the TPZ where roots are encountered.

Weed Removal To reduce competition with the tree the area within the *TPZ* is to be kept free of weeds. These are best removed by the application of foliar herbicide with Glyphosate as the active constituent. This is the preferred method rather than removal by cultivation of the soil within the drip-line, to minimise root disturbance to the tree. The removal of woody weeds such as Privet should use the cut and paint method of herbicide application. Weeds are to be controlled within the *TPZ* for the duration of the project.

Mulching inside the Tree Protection Zone at the applicable depth of 50-100 mm with organic material being 75% leaf litter and 25% wood, and this being composted material preferably from the same genus and species of tree as that to where the mulch is to be applied, i.e. species specific mulch. The depth and type of mulch is to be maintained for the duration of the project.

Watering In the event of prolonged dry periods, or where a tree has been transplanted, or where excavation nearby, especially up slope, leads to drying out of a soil profile, or modification to ground water flow, or flows across an existing ground surface to the tree and its growing environment; deep root watering thoroughly at least twice a week is to be undertaken to irrigate the tree. The need for such watering is determined readily by observing the dryness of the soil surface within the drip-line of the tree by scraping back some mulch. Mulch is to be reinstated afterwards. In the event of disrupted ground or surface water flows to the tree due to excavation, filling or construction, a reticulated irrigation system may be required to be installed within the *TPZ*. If an irrigation system is to be installed, consideration must be given to volume, frequency, and drainage of water delivered, and this should be in consultation with a qualified Consulting Arborist.

Pruning the tree; including Dead wood and crown thin to council regulations and in accordance with AS4373-2007 'Pruning Amenity of Trees'. Australian Standards

Fertilising A tree will not be fertilised during its protection within the *TPZ*. If a tree is to be fertilised this should be in consultation with a qualified Consulting Arborist.

Regular monitoring of tree protection in adherence with the approved tree protection plan throughout the development process must be undertaken in consultation with the Consulting Arborist for the project to ensure that tree protection measures are maintained. Inspections are to be carried out monthly reports until completion of construction. Any problems will be rectified that may occur. A Qualified Arborist with appropriate qualifications and experience will be on site if any excavation work within the Critical Root Zone is required and will provide notes in the final report. Maintenance will continue after three months of completion.

APPENDIX J DISCLAIMER

McArdle & Sons Pro Tree Service

McArdle & Sons Pro Tree Service does not assume responsibility for liability associated with the tree on or adjacent to this project site, their future demise and/or any damage, which may result therefrom.

Any legal description provided to McArdle & Sons Pro Tree Service is assumed to be correct. Any titles and ownerships to any property are assumed to be good and sound. McArdle & Sons Pro Tree Service takes care to obtain all information from reliable sources. All data has been verified insofar as possible; however, the consultant can neither guarantee nor be responsible for the accuracy of information provided by others.

McArdle & Sons Pro Tree Service reports and recommendations shall not be viewed by others or for any other reason outside its intended target, either partially or whole, without the prior written consent of the consultant. Unauthorised alteration or separate use of any section of the report invalidates the whole report. McArdle & Sons Pro Tree Service cannot be held responsible for any consequences as a result of work carried out outside specifications, not in compliance with Australian Standards or by inappropriately qualified staff.

Sketches, diagrams, graphs, and photographs in this report, being intended as visual aids, are not necessarily to scale. All recommendations contained within this report represent the current industry best practice methods of inspection. McArdle & Sons Pro Tree Service shall not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services.

LIMITS OF OBSERVATION

McArdle & Sons Pro Tree Service makes every effort to accurately identify current tree health and safety issues. Results may or may not correlate to actual tree structural integrity. There are many factors that may contribute to limb or total tree failure. Not all these symptoms are visible. There can be hidden defects that may result in a failure even though it would seem that other, more obvious defects would be the likely cause of failure.

All standing trees have an element of unpredictable risk. McArdle & Sons Pro Tree Service endeavors to identify the risk that the tree represents; however a level of risk associated with every tree will remain. McArdle & Sons Pro Tree Service does not provide any warranty or guarantee that problems, deficiencies or failures with regard to the plant/s, property or building/s will not arise in the future.

Ongoing monitoring may foresee deterioration of a tree and allow remedial action to be taken to prevent injury or damage. The timing for re-inspection on individual trees is subjective and will vary however an annual inspection is advisable for trees in subsequent years.

FURTHER RESEARCH The report does not cover threatened, heritage or existing trees in relation to remnant forest. Further reporting may be considered as part of the relevant RISK ASSESSMENT.

LIMIT OF OBSERVATIONS BY RODNEY M. PAGE

“There are many factors that may contribute to limb or total tree failure. Factors include, decay (in the trunk, crown or branch junctions), external damage to branches leading to decay, poor branch taper, included bark, root rot/ decay. Not all these symptoms are visible i.e. internal decay; of these some external symptoms may indicate the presence of Dead wood but not the extent of decay. The most solid looking piece of timber may be riddled with breaks in continuity of growth caused by insect damage or poor pruning practices or other physical damage caused many years previous. Trees don't heal; they simply box in the damaged area ((CODIT) Compartmentalization of Decay In Trees.) and continue to expand in girth, completely disguising the fact that the branch or trunk has a hollow or decayed section. Having said this, not all areas, of decay past or present suggest a point of failure.”

In addition to this information, other variables that can contribute to limb or total tree failure are tree species, wood densities, weight, age, location, exposure to the elements, soil types, disease and pests, birds using trees as habitat and food sources, termites causing structural problems and human influences such as, altered drainage, compaction or leaching of minerals.