ATTACHMENT 7
ARBORIST REPORT

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tree care and consultancy

Preliminary Arboricultural Audit
for
330-334 Galston Road
(Lot 2 in DP 851940)
Galston

Prepared for:

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GALSTON NSW 2159

Ref: 2045Audit

June 2010

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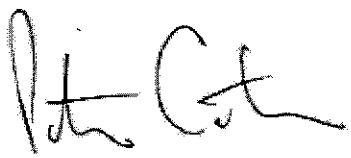

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23 June 2010

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1. BACKGROUND

1.1 INTRODUCTION

1.1.1 This Arboricultural Audit was prepared for property owner, Frank Barba, to provide preliminary arboricultural advice in relation to the proposed redevelopment of 330-334 Galston Road, Galston (Lot 2 in DP 851940), the subject site.

1.1.2 A SEPP *Housing for Seniors and People with a Disability 2004* development is being considered for the site. A *Certificate of Site Compatibility* for this use was issued by the Director General of the Department of Planning on 8th December, 2008.

1.1.3 A pre-lodgement meeting was held with Hornsby Council on 14th April, 2009. Item 10 *Trees* sought *"an Arborist report with an accurate site plan...must be provided by an AQF Level 5 Consulting Arborist....An overlay of proposed development over this plan must be provided."* This document will guide the planning and ultimate layout of the development. When the existing trees and required construction offsets have been considered, an Arboricultural Impact Assessment (*Arborist Report*) will be prepared as required to accompany the Development Application.

1.2 THE SUBJECT SITE

1.2.1 The subject site at 330-334 Galston Road, Galston (Lot 2 in DP 851940) was located on the northern side of Galston Road on gently undulating rural land. There were two dwelling houses and various sheds located generally towards the centre of the site as indicated on the Detail Survey. The main vehicular access was from Galston Road (Photo A) with an additional access along the northern boundary on the adjoining property. There was a dam located in the southwestern corner, two residential properties adjoining to the west and one residential property adjoined in the south-eastern corner. The site had a high point in the northeastern corner and low point on the western boundary.

1.2.2 The Soil Landscape[1] for the site was Glenorie (*gn*) which comprises undulating to rolling low hills on Wianamatta Group scales. The former tall open forest had been extensively cleared. The soils were shallow to moderately deep (<100cm) on the crests and deep (>200cm) in the drainage lines. Soils on the subject site are likely to be >200cm deep on the western boundary and shallower in the upper areas. Refer to the geotechnical assessment for further detail. Given the previous site development and agricultural use, the existing soils are likely to be disturbed to a varying extent.

[1] **Chapman, G.A. and Murphy, C.L.** (1989). Soil Landscapes of the Sydney 1:100000 Sheet. *Soil Conservation Service of NSW, Sydney*

1.3 THE SUBJECT TREES

1.3.1 Fifty three (53) trees were assessed as indicated on Detail Survey 51618, Issue A, 30.09.09 prepared by Hill and Blume Consulting Surveyors Pty Ltd. These trees included planted exotics and planted Australian natives with scattered remnant bushland tree species. Many of the assessed trees were weed species, being exempt species under the Hornsby Council Tree Preservation Order (the TPO)[2]. In particular there were many Camphor Laurel, *Cinnamomum camphora* and Sweet Pittosporum, *Pittosporum undulatum* located on the dam wall in the southwestern corner of the property (Photo B).

1.3.2 The most significant trees (©Retention Index "A") were the remnant bushland trees, Trees 51 and 53, located on the adjoining property (Photo D).

1.3.3 The following site trees are typical of species found on Glenorie Soil Landscape: Trees 3, 49, 51, 52 (Grey Ironbark).

1.3.4 The subject does not contain a native vegetation community as indicated on Council's *Native Vegetation Communities of Hornsby Shire, P and J Smith November, 2008.* Scattered remnant canopy trees however do still exist.

1.3.5 None of the orchard trees (peaches and nectarines) were assessed as these trees was exempt under the TPO.

1.3.6 The general findings and data collected for each of the subject trees are contained in Tree Schedule (Attachment A).

[2] http://www.hornsby.nsw.gov.au/servicesfacilities/index.cfm?NavigationID=713

2. METHODOLOGY

2.1 DATA COLLECTION

2.1.1 In preparation of this Preliminary Arboricultural Audit a ground level, visual tree assessment (VTA)[3] was undertaken on 18th February, 2010. No aerial (climbing) inspections, woody tissue testing or tree root mapping were undertaken as part of this assessment. Existing tree structural defects (Photo C) were identified and these are reflected in the ©Retention Values allocated to individual trees.

2.1.2 Tree heights were estimated. Trunk diameter at breast height (DBH) was estimated at 1.4 metres above ground level and rounded to the nearest 0.1 metre. The trunk diameter or the purpose of calculating Structural Root Zone (SRZ) radii was assumed to be 10% greater than the DBH. The vigour of the trees was rated Good, Fair or Poor and a Safe Useful Life Expectancy (SULE) estimated. The terms, Diameter at Breast Height (DBH), Tree Protection Zone (TPZ), Structural Root Zone (SRZ), ©Significance Rating, ©Retention Index and Safe Useful Life Expectancy (SULE) have been used when describing the site trees. Attachment A provides a detailed explanation of each.

2.1.3 All tree offsets mentioned in this document are to centre of trunk unless otherwise stated.

2.1.4 The Photographs (Attachment B) were taken by the author at the site inspection of 18th February, 2010.

2.1.5 The subject trees were numbered and labelled on site with aluminium foil tags by the Surveyors as per the Tree Schedule (Attachment A) and Arboricultural Implications Plan (Attachment C).

2.1.6 The assessment method complies with both Australia Standard AS 4970-2009 *Protection of trees on development sites* and with Hornsby Council's *Tree Assessment Guidelines* and *Guidelines for Arborists Reports.*

2.2 IMPACT ASSESSMENT METHOD

2.2.1 The Australian Standard *AS 4970–2009 Protection of trees on development sites* has been used as a guiding principal in this document: the terminology and impact assessment methodology used in this document have been adopted from AS 4970-2009.

2.2.2 A ©Retention Value which considers the Safe Useful Life Expectancy (SULE) and ©Significance Rating has been allocated to each tree. Trees with ©Retention Value "A" should be given greater priority for retention during the planning of the development than trees with ©Retention Value "C". Trees with ©Retention Value "D" should be removed irrespective of the layout given the tree hazard potential.

2.2.3 All TPO exempt species irrespective of size, age or condition and dead or dangerous trees were given a ©Significance Rating of "4" (Low Significance).

[3] VTA – Visual Tree Assessment, undertaken by tree professionals, is a recognised (International Society of Arboriculture, Journal of Arboriculture, Vol. 22 No. 6, Nov. 1996) systematic method of identifying tree characteristics and hazard potential. VTA is also an assessment method described by Claus Mattheck in *The Body Language of Trees – A handbook for failure analysis.* The Stationary Office, London (1994)

2.2.4 Dead trees were given a Safe Useful Life Expectancy (SULE) of "R" (Remove). All TPO exempt species were recommended to be removed.

2.2.5 A Tree Protection Zone (TPZ) has been defined for each tree. The TPZ is the area required to be left generally undisturbed to ensure long-term viability of the tree. Some construction is possible within TPZ offsets with specific arboricultural assessment. The TPZ is equivalent to 12 times DBH (trunk diameter at 1.4m above ground). If encroachments are required, a similar area needs to be provided elsewhere contiguous with that rootzone.

2.2.6 A Structural Root Zone (SRZ) has been allocated for each tree. The SRZ is the area required to be left generally undisturbed to ensure the stability of the tree. The SRZ is calculated by formula at Figure 1 of AS 4970-2009. Earthworks must avoid SRZ offsets.

2.2.7 "Construction" or "works" for the purpose of this Report means excavation (greater than 100mm), compacted fill or machine trenching. "Excavation" includes cut batters, boxing–out for the various pavement types, trenching for utilities and footings for retaining walls. "Compacted fill" includes fill areas and fill batters.

2.2.8 Trees within proposed construction footprints will be recommended for removal (**Rm**).

2.2.9 Where construction is proposed within Structural Root Zone (SRZ) offsets, those trees will be similarly recommended for removal (**Rm**). Fully elevated, pier and beam type construction or hand dug services trenches (or horizontal boring) is however possible within a SRZ with tree being retained following specific rootzone assessment.

2.2.10 Trees with excessive Tree Protection Zone (TPZ) construction encroachments (generally greater than 20%) will be recommended for removal (**Rm**). There will however be varying types of construction incursions proposed (fill, cut, services, pavement type, retaining walls) with varying tree impacts likely. Similarly existing constraints to root development varies from tree to tree.

2.2.11 Trees to be retained with construction within TPZ offsets will be rated as Retain Plus (**R+**). Encroachment greater than 10% of TPZ area is regarded as *major encroachments* (*3.3.3* of AS 4970-2009). Specific construction monitoring will be required for the Retain Plus (**R+**) trees. Trees to be retained with greater than 10% encroachments will require specific rootzone assessment to justify retention.

2.2.12 Where construction is proposed beyond the TPZ, those trees are rated as Retain (**R**) with no specific tree protection design or tree protection monitoring required.

3. SUMMARY OF KEY FINDINGS

3.1 GENERAL

3.1.1 There were few significant trees within or adjacent the subject site which warrant retention. The site does not contain a native vegetation community as indicated on Council's *Native Vegetation Communities of Hornsby Shire Map, P and J Smith November, 2008.* The dense vegetation located on the dam wall was comprised predominantly of weed species exempt under the Hornsby Tree Preservation Order.

3.1.2 This Arboricultural Audit is to be followed by an Arboricultural Impact Assessment (Arborist Report) reflecting the final development layout.

3.2 ©RETENTION VALUE

3.2.1 Of the fifty three (53) trees assessed:

two (2) had a ©Retention Value of "A": Trees 51 and 53 (on adjoining property)

twenty seven (27) trees were ©Retention Value "B" trees (refer to Tree Schedule)

twenty two (22) trees were ©Retention Value "C" trees (refer to Tree Schedule)

two (2) trees were ©Retention Value "D" trees: Trees 5 and 7

3.2.2 The planning and layout of the development should attempt to retain as many of the more significant ©Retention Value "A" and "B" trees.

3.2.3 As stated at 2.2.10, construction encroachment should be restricted to less than 20% of the Tree Protection Zone of individual trees if those trees are to be retained in the long term. Refer to the Arboricultural Implications Plan for TPZ areas and ©Retention Value for each assessed tree.

3.2.4 Consideration should be given to the Hornsby TPO. Council will generally not approve the retention of trees within 3 metres of the foundation walls of a building or inground swimming pools.

Attachment A: Tree Schedule

Tree Schedule - 330-334 Galston Rd, Galston

TREE No.	COMMON NAME/ GENUS SPECIES	DBH (m)	HEIGHT (m)	CANOPY RADIUS (m)	AGE CLASS	VIGOUR	CONDITION	SRZ RADIUS (m)	TPZ RADIUS (m)	SULE	©SIG RATING	©RETENTION INDEX	RECOMMENDATION	COMMENTS
1	Silky Oak, *Grevillea robusta*	0.4	12	4	OM	P	P	2.4	4.8	S	4	C	R+	*Dense patch of vegetation surrounding southern side of dam made up of Camphor Laurels, Wattles and Willows. Under canopy is densely covered with weeds.*
2	Camphor Laurel, *Cinnamomum camphora*	0.2 (x4)	10	3	M	F	F	2.4	4.8	L	4	C	Rm	*Many similar sized Camphor Laurels in group, under canopy with dense weed growth within 5m.TPO exempt species.*
3	Grey Gum, *Eucalyptus punctata*	0.4, 0.3	13	4	M	F	F	2.6	6.0	L	3	B	R+	*Southern leader dead, dense weed growth within 5m.*
4	Camphor Laurel, *Cinnamomum camphora*	0.4	8	5	SM	G	G	2.4	4.8	L	4	C	Rm	*Under canopy with dense weed growth within 5m.TPO exempt species.*
5	Monterey Pine, *Pinus radiata*	0.7	15							R	4	D	Rm	*Tree is dead.*
6	Camphor Laurel, *Cinnamomum camphora*	0.3, 0.3	10	4	SM	G	G	2.4	4.8	L	3	B	Rm	*Skew to the south, power lines to south.TPO exempt species.*
7	Monterey Pine, *Pinus radiata*	0.8	12							R	4	D	Rm	*Tree is dead.*
8	Camphor Laurel, *Cinnamomum camphora*	0.8	11	4	SM	G	F	3.1	9.6	M	4	C	Rm	*Under canopy with dense weed growth within 5m.TPO exempt species.*
9	Camphor Laurel, *Cinnamomum camphora*	0.3, 0.2	10	3	SM	G	F	2.4	4.8	M	4	C	Rm	*Under canopy with dense weed growth within 5m.TPO exempt species.*
10	Camphor Laurel, *Cinnamomum camphora*	0.5	12	3	SM	G	F	2.6	6.0	M	4	C	Rm	*Under canopy with dense weed growth within 5m.TPO exempt species.*
11	Camphor Laurel, *Cinnamomum camphora*	0.3, 0.3, 0.3	11	3	SM	F	F	2.6	6.0	M	4	C	Rm	*Under canopy with dense weed growth within 5m.TPO exempt species.*
12	Camphor Laurel, *Cinnamomum camphora*	0.3, 0.3, 0.2, 0.1	11	3	SM	F	F	2.6	6.0	M	4	C	Rm	*Under canopy with dense weed growth within 5m.TPO exempt species.*
13	Sydney Green Wattle, *Acacia parramattensis*	0.3	8	4	M	F	F	2.1	3.6	S	4	B	Rm	*Canopy skewed to east, under canopy with dense weed growth.*

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14	Camphor Laurel, *Cinnamomum camphora*	0.3, 0.1	9	3	SM	F	F	2.1	3.6	M	4	C	R+	*Under canopy with dense weed growth within 5m.TPO exempt species.*
15	Camphor Laurel, *Cinnamomum camphora*	0.5	10	5	SM	F	F	2.6	6.0	M	4	C	Rm	*Under canopy with dense weed growth within 5m.TPO exempt species.*
16	Camphor Laurel, *Cinnamomum camphora*	0.8	10	5	SM	G	F	3.1	9.6	M	4	C	Rm	*Under canopy with dense weed growth within 5m.TPO exempt species.*
17	Camphor Laurel, *Cinnamomum camphora*	1.0	12	5	SM	F	F	3.4	12.0	M	4	C	Rm	*Under canopy with dense weed growth within 5m.TPO exempt species.*
18	Sydney Red Gum, *Angophora costata*	0.4	18	5	M	F	F	2.4	4.8	L	3	B	R+	*Tree has an upright suppressed form.*
19	Sydney Red Gum, *Angophora costata*	0.3	11	5	SM	G	F	2.1	3.6	M	4	C	R+	
20	Sydney Red Gum, *Angophora costata*	0.3	14	5	SM	G	F	2.1	3.6	L	3	B	R+	*Canopy skewed to north, a Camphor Laurel and Pittosporum sit within 5m.*
21	Sydney Red Gum, *Angophora costata*	0.4	17	5	SM	F	F	2.4	4.8	M	3	C	R+	*Borer wound at 8m located to north side, borer infestation in crown, parallel markings on trunk evident of sugar glider activity.*
22	Sydney Red Gum, *Angophora costata*	0.3	17	5	SM	P	P	2.1	3.6	S	4	C	R+	*Tree has a dense under canopy.*
23	Monterey Pine, *Pinus radiata*	0.3	7	3	SM	G	G	2.1	3.6	M	4	C	R+	*Camphor Laurel within 2m.*
24	Sydney Red Gum, *Angophora costata*	0.5	17	5	M	F	F	2.5	6.0	M	3	B	R+	*Main leader on tree dead, a major borer infestation is evident in crown.*
25	Liquidambar, *Liquidambar styraciflua*	0.5	12	5	SM	G	G	2.6	6.0	M	3	B	R+	*note: 20% difference from ground level to 1.4m, DBH taken at ground level. The tree is codominant from 5m, its location within 5m of house.*
26	Jacaranda, *Jacaranda mimosifolia*	0.3	7	5	SM	G	G	2.1	3.6	L	3	B	R+	
27	Illawarra Flame Tree, *Brachychiton acerifolius*	0.3	7	4	M	G	G	2.1	3.6	L	3	B	R+	
28	Illawarra Flame Tree, *Brachychiton acerifolius*	0.4	8	3	M	G	G	2.4	4.8	L	3	B	R+	*Tree has a circling root at base.*
29	Box Elder, *Acer negundo*	0.4	6	4	M	G	G	2.4	4.8	L	3	B	Rm	*Under canopy made up of ornamental garden bed, tree is exempt under local government regulation.TPO exempt species.*

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30	Liquidambar, *Liquidambar styraciflua*	0.5	14	6	M	G	G	2.6	6.0	M	3	B	R+	
31	Monterey Cypress, *Cupressus macrocarpa 'cv.'*	0.8	14	4	M	G	F	3.1	9.6	M	3	B	R+	*It is evident that tree has some decay at base, power lines are breaking the canopy from the south east.*
32	Monterey Cypress, *Cupressus macrocarpa 'cv.'*	0.9	13	4	M	G	G	3.3	10.8	M	3	B	R+	
33	Leighton Green Cypress, *x Cupressocyparis leylandii "Leighton Green"*	0.4, 0.3	12	3	M	G	F	2.4	4.8	M	3	B	R+	
34	Leighton Green Cypress, *x Cupressocyparis leylandii "Leighton Green"*	0.3, 0.2	12	3	M	G	F	2.4	4.8	M	3	B	R+	*The tree is codominant and has a trunk wound to the south.*
35	Leighton Green Cypress, *x Cupressocyparis leylandii "Leighton Green"*	0.3	13	2	M	G	F	2.1	3.6	M	4	C	R+	*Species are clumped together as part of a dense screen planting, they are mature specimens for their variety.*
36	Leighton Green Cypress, *x Cupressocyparis leylandii "Leighton Green"*	0.5	13	3	M	G	F	2.6	6.0	M	3	B	R+	*Tree is twin-stemmed from 2m.*
37	Norfolk Island Pine, *Araucaria heterophylla*	0.3	12	3	SM	G	G	2.1	3.6	L	3	B	R+	*The tree has a slight trunk lean to the north east.*
38	Monterey Cypress, *Cupressus macrocarpa 'cv.'*	0.7	12	3	M	F	F	2.9	8.4	S	3	C	R+	*A 6m Cypress is located to the east, the tree is unmarked and is in very poor condition.*
39	Monterey Cypress, *Cupressus macrocarpa 'cv.'*	0.6	12	3	M	F	F	2.8	7.2	S	3	C	R+	
40	Monterey Cypress, *Cupressus macrocarpa 'cv.'*	0.4	12	3	M	G	F	2.4	4.8	S	3	C	R+	
41	Monterey Cypress, *Cupressus macrocarpa 'cv.'*	0.4	10	4	M	F	G	2.4	4.8	S	3	C	R+	*Tree has multiple trunks and a prominent lean to the east. Tree codominant from 1.5m.*
42	Liquidambar, *Liquidambar styraciflua*	0.6	12	6	M	G	F	2.8	7.2	M	3	B	R+	
43	Leighton Green Cypress, *x Cupressocyparis leylandii "Leighton Green"*	0.3, 0.2	13	2	M	G	F	2.4	4.8	M	3	B	R+	

TREE No.	COMMON NAME/ GENUS SPECIES	DBH (m)	HEIGHT (m)	CANOPY RADIUS (m)	AGE CLASS	VIGOUR	CONDITION	SRZ RADIUS (m)	TPZ RADIUS (m)	SULE	©SIG RATING	©RETENTION INDEX	RECOMMENDATION	COMMENTS
44	Leighton Green Cypress, *x Cupressocyparis leylandii "Leighton Green"*	0.3	14	2	M	G	G	2.1	3.6	M	3	B	R+	
45	Leighton Green Cypress, *x Cupressocyparis leylandii "Leighton Green"*	0.4	14	2	M	G	G	2.4	4.8	M	3	B	R+	*Row of trees 42 - 48 lie next to drainage swale bordered by orchard and driveway to the east, runoff from the north is evident and has a minor impact on soil erosion.*
46	Leighton Green Cypress, *x Cupressocyparis leylandii "Leighton Green"*	0.4	14	2	M	G	G	2.4	4.8	M	3	B	R+	
47	Liquidambar, *Liquidambar styraciflua*	0.4	14	5	SM	G	G	2.4	4.8	M	3	B	R+	
48	Liquidambar, *Liquidambar styraciflua*	0.4	12	6	SM	G	G	2.4	4.8	M	3	B	R+	
49	Grey Ironbark, *Eucalyptus paniculata*	0.7	17	6	M	G	P	2.9	8.4	S	3	C	R+	*Tree has a bark wound to the south, possibly machinery. It is codominant at 2.3m and skewed to the north east.*
50	Yellow Gum, *Eucalyptus leucoxylon*	0.4, 0.5	18	6	M	F	F	2.9	8.4	M	3	B	R+	*Tree is codominant from 1m.*
51	Grey Ironbark, *Eucalyptus paniculata*	0.9	22	7	M	G	G	3.3	10.8	L	1	A	R+	*Tree has small bark wound to north west side.*
52	Grey Ironbark, *Eucalyptus paniculata*	0.9	22	7	M	G	F	3.3	10.8	M	3	B	R+	*The tree has mechanical damage to the north west caused as a result of road traffic.*
53	Red Mahogany, *Eucalyptus resinifera*	0.8	21	6	M	G	G	3.1	9.6	M	2	A	R+	*The tree is codominant from 2m.*
53														

TREE No.	COMMON NAME/ GENUS SPECIES	DBH (m)	HEIGHT (m)	CANOPY RADIUS (m)	AGE CLASS	VIGOUR	CONDITION	SRZ RADIUS (m)	TPZ RADIUS (m)	SULE	©SIG RATING	©RETENTION INDEX	RECOMMENDATION	COMMENTS

©SIG. RATING	NO. OF TREES
1	1
2	1
3	32
4	19

©RETENTION INDEX	
A	2
B	27
C	22
D	2

RECOMMENDATION	NO. OF TREES
R	0
R+	38
T	0
Rm	15

COMMON NAME/GENUS SPECIES CULTIVAR - Common names can vary with selected texts. Where species is unknown, "*sp.*" indicated after genus. Where cultivar is unknown "*cv*" indicated after species. The number in brackets e.g. (x9) after the species indicates the number of trees in this tree group.

DBH - Diameter at Breast Height. Tree trunk diameter measured at breast height (1.4 metres above ground level). Fabric diameter tape is used which assumes a circular cross section. Multiple measurements indicate multiple trunks. More than three trunks are indicated as "multi". Where DBH measurement cannot be taken at 1.4m the height at which it has been taken is indicated in the Comments column.

CANOPY SPREAD RADIUS – Average canopy radius (widest + narrowest ■ 2). Circular canopy depictions on Tree Plan/Survey are indicative only. Where canopy spread was significantly skewed, all four cardinal point measurements were recorded.

AGE CLASS -Immature (IM), Semi-mature (SM), Mature (M), Over-mature (OM). Assessment of the tree's current Age. A **Mature (M)** tree has reached a near stable size (biomass) above and below ground. Trees can have a Mature age class for >90% of life span. **Over-mature (OM)** trees show symptoms of irreversible decline and decreasing biomass.

VIGOUR - Good (G), Fair (F) or Poor (P). The general appearance of the canopy/foliage of the tree at the time of inspection. Vigour can vary with the season and rainfall frequency. A tree can have Good vigour but be hazardous due to Poor condition. A tree in Good vigour has the ability to sustain its life processes. Vigour is synonymous with health.

CONDITION - Good (G), Fair (F) or Poor (P). The general form and structure of the trunk/s and branching. Trunk lean, trunk/branch structural defects, canopy skewness or other hazard features are considered.

SRZ RADIUS - Structural Root Zone. The area around a tree required for tree stability. Earthworks should be prohibited within the SRZ.. The area is calculated from the formula and graph at Figure 1 of AS4970-2009. The SRZ graph has been adapted from the work of Claus Mattheck (1994). DBH has been used instead of stem diameter above root buttress in the calculation of SRZ. 0.1m has been added to SRZ to allow for minor increases in stem diameter.

TPZ RADIUS – Tree Protection Zone. Radial offset (m) of twelve times (12X) trunk DBH measured from centre of trunk (for trees less than 0.3 metre DBH minimum TPZ is 2.0 metres). To satisfactorily retain the tree construction activity (both soil cut and fill) must be restricted within this offset. TPZ offsets are rounded to the nearest 0.1 metre. Existing constraints to root spread can vary TPZ. Generally an area equivalent to the TPZ should be available to the tree post development. Encroachment occupying up to 10% of the TPZ area is acceptable without detailed rootzone assessment. Encroachments greater than 10% require specific arboricultural assessment.

SULE - Safe Useful Life Expectancy. A systematic pre-development tree assessment procedure developed by Jeremy Barrell, Hampshire, England. The SULE method used in this assessment has been adapted for simplified use within the field. It gives a length of time that the Arborist feels a particular tree can be retained with an acceptable level of risk based on the information available at the time of the inspection. SULE ratings are **Long** (retainable for 40 years or more with an acceptable level of risk), **Medium** (retainable for 16-39 years), **Short** (retainable for 5-15 years) and **Removal** (tree requiring immediate removal due to imminent hazard or absolute unsuitability).

©SIG. RATING - ©Significance Rating Scale (see notes over)

©RETENTION INDEX (see notes over)

RECOMMENDATIONS - Retain ***(R)***, ***Retain Plus (R+)***, ***Transplant*** **(T)** or ***Remove (Rm)***.

COMMENTS - Comments relating to the location, surroundings and hazard potential of the trees at the time of inspection and where applicable the reason for removal.

©SIG. RATING - ©Significance Rating Scale. A site specific qualitative evaluation of a tree relative to the existing landuse developed by Tree Wise Men® Australia Pty Ltd. Takes into consideration the impact of the tree on the surrounding landscape, streetscape and bushland. Rarity, habitat value, historical/cultural value and structural form of the tree are considered in this rating system. It is possible for a tree to have a Short SULE and a ©Significance Rating of 1. Likewise it is possible for a tree to be given a Long SULE and a ©Significance Rating of 4 (e.g. weed species). The ©Significance Ratings used in this Report are as outlined in Table 1.

Table 1: ©Significance Rating Characteristics

Rating	Significance	Characteristics (some or all)
©Sig. Rating 1	**Exceptional**	▪ Major contribution to site amenity ▪ Remnant specimen ▪ Heritage Listed ▪ Listed on Significant Tree Register ▪ Threatened Species ▪ Good vigour and condition ▪ Cultural significance ▪ Possible habitat for threatened fauna ▪ Excellent, well formed specimen ▪ Rare or unusual species ▪ Large above ground biomass ▪ Unique within the site and surrounds
©Sig. Rating 2	**High**	▪ Considerable contribution to site amenity ▪ Remnant specimen ▪ Good vigour and condition ▪ Threatened Species ▪ Cultural significance ▪ Possible habitat tree for threatened fauna ▪ Well formed specimen ▪ Rare or unusual species ▪ Large or moderate above ground biomass ▪ Other specimens with similar characteristics within the site and surrounds
©Sig. Rating 3	**Moderate**	▪ Minor contribution to site amenity ▪ Remnant or planted ▪ Fair or Poor vigour and condition ▪ Potential for growth ▪ Well formed or asymmetrical form ▪ Other specimens with similar characteristics within the site and surrounds
©Sig. Rating 4	**Low**	▪ Small/poor specimen ▪ Poor vigour and condition ▪ Inappropriate for the location ▪ Minor contribution to landscape amenity ▪ Easily replaced ▪ Weed species or TPO Exempt ▪ Hazardous ▪ Previously ©Sig. Rating 5 tree

©RETENTION INDEX. A site specific assessment of an individual tree's retention value developed by Tree Wise Men® Australia Pty Ltd. Incorporating SULE and ©Significance Rating each tree is allocated a retention value of A, B, C or D. The ©Retention Index values can be described as follows:

©Retention Value A	**Should be retained**	▪ Major redesign may be required (e.g. movement of building footprint, re-alignment of roadway).
©Retention Value B	**Could be retained**	▪ Minor redesign may be required (e.g. level changes, pavement detail).
©Retention Value C	**Could be retained**	▪ Should not constrain proposed development.
©Retention Value D	**Remove or fence off (irrespective of development layout.)**	▪ Imminently dangerous. ▪ In an irreversible state of decline.

©Retention Index		**©Significance Rating**			
		1	**2**	**3**	**4**
SULE Rating	**Long (40+ years)**	**A**		**B**	**C**
	Medium (15-40 years)				
	Short (5-15 years)	**B**			
	Remove (< 5 years)	**D**			

Attachment B: Site Photographs

Photo A: Main entrance off Galston Road showing scattered exotic trees adjacent to the existing buildings. Woody weeds associated with the dam wall are shown on the LHS, significant remnant natives on RHS.

Photo B: The dam in the southwestern corner of the site with dense woody weeds along dam wall.

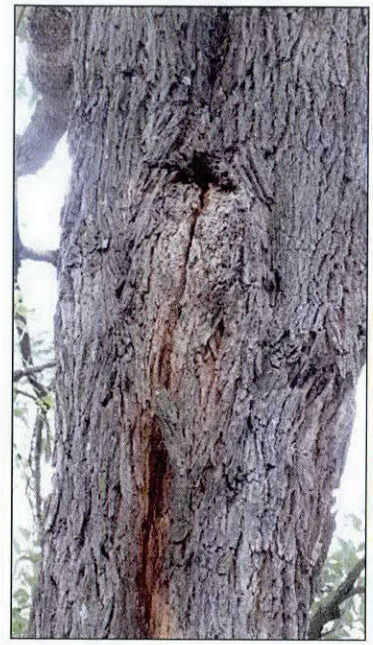


Photo C: Structural defects have been identified in the site trees. Such defects are reflected in the ©Retention Values.

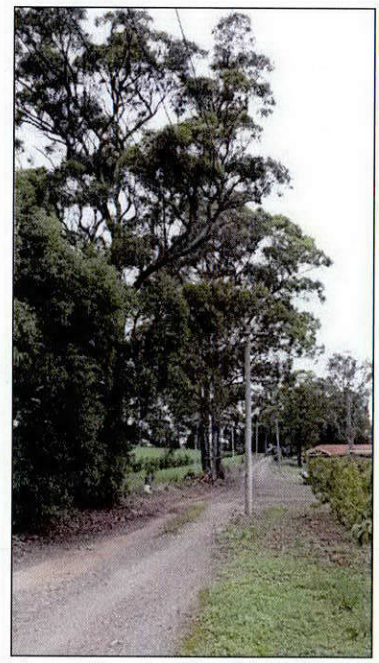
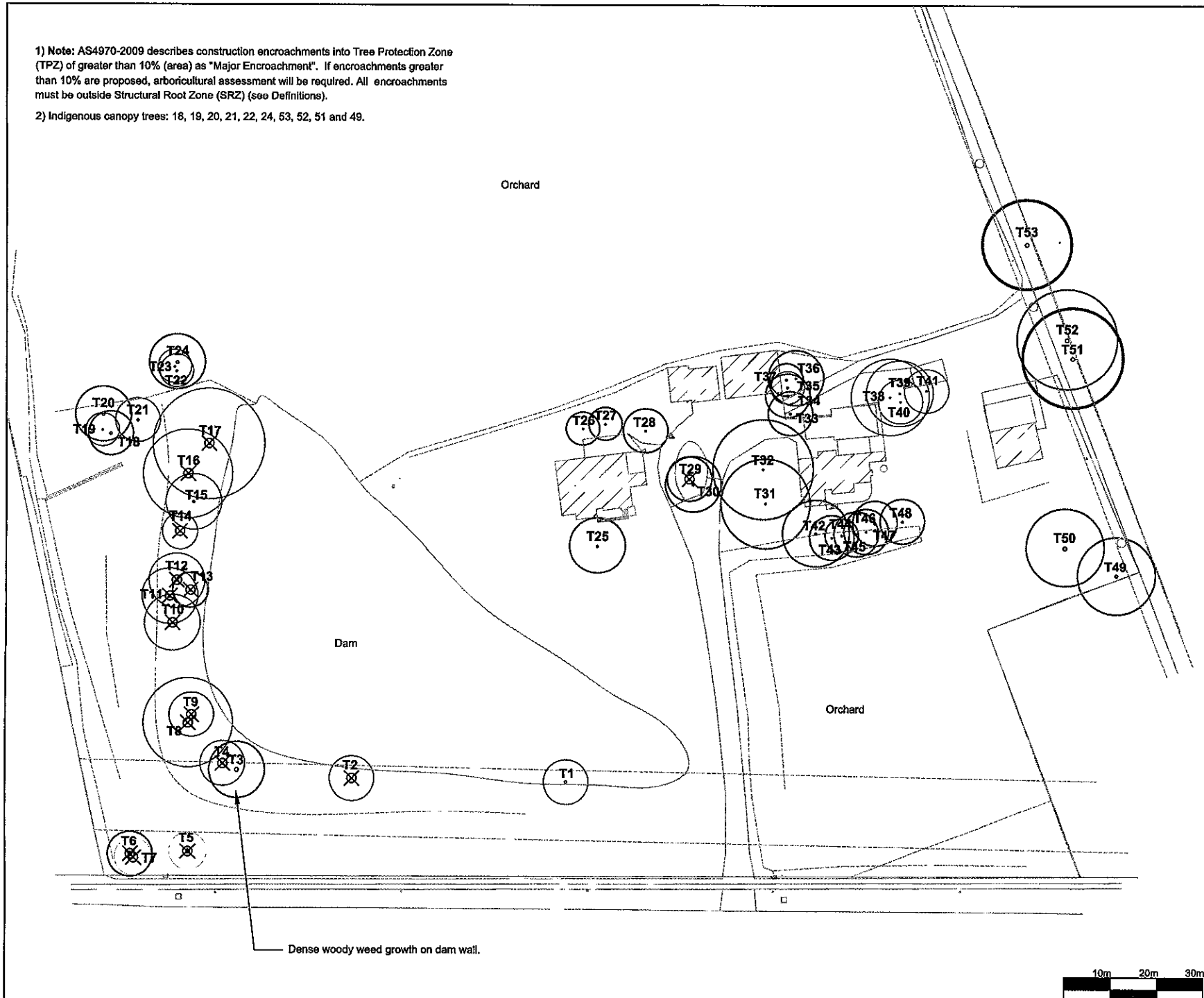


Photo D: Significant remnant trees T53, 52 and 51 on adjoining property to east.

C: Arboricultural Implications Plan

1) **Note:** AS4970-2009 describes construction encroachments into Tree Protection Zone (TPZ) of greater than 10% (area) as "Major Encroachment". If encroachments greater than 10% are proposed, arboricultural assessment will be required. All encroachments must be outside Structural Root Zone (SRZ) (see Definitions).

2) Indigenous canopy trees: 18, 19, 20, 21, 22, 24, 53, 52, 51 and 49.



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LEGEND

Site boundary:	
Tree number with trunk & canopy as plotted on Site Survey:	T34
©Retention Value A TPZ:	
©Retention Value B TPZ:	
©Retention Value C TPZ:	
©Retention Value D TPZ:	
Dead trees to be removed:	
Trees recommended for removal: TPO exempt species	

TITLE:	©ARBORICULTURAL IMPLICATIONS PLAN
CLIENT:	FRANK BARBA
PROJECT:	330 - 334 GALSTON RD, GALSTON
DRAWING NO:	2045AIP
DRAWN BY:	RF
BASED ON:	HILL AND BLUME CONSULTING SURVEYORS PTY LTD, DRAWING NO. 51618 ISSUE A, 30.9.09
DATE:	22.2.10 Rev.: A
SCALE:	1:750@A3