

arboricultural impact assessment, proposed development fifteenth avenue commercial precinct, west hoxton

29th May 2015

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Executive Summary

This report has been prepared to assess the condition and significance of a number of trees on the properties known as Lot 2 in DP307334 and Lots 345 & 346 in DP2475, West Hoxton and assess the potential impact of the proposed development on the identified trees.

The report was commissioned by Western Sydney Parklands Trust who have also provided site instructions. The site inspection and arboricultural assessments were conducted on 27th May 2015.

The assessments carried out in this report are based upon the Australian Standard 4970 - 2009, Protection of Trees on Development Sites. The terminology used in this report is also consistent with that used in the AS 4970-2009. The definition of a tree in this report is consistent with that described in Part 1.1 of the Liverpool Development Control Plan (2008) being “*any perennial plant that has a: Height greater than 3.5 metres; and/or Canopy spread greater than 4 metres; and/or Primary trunk diameter greater than 400 millimetres when measured 1 metre above existing ground level of the tree*”.

The site is situated on the northern side of Fifteenth Avenue, West Hoxton and covers an area of approximately 4.3 hectares. The site contains open pastures used for grazing with 2 dams, a residential dwelling with a number of sheds used for agricultural purposes and an allotment containing a bus depot and maintenance sheds.

The proposed development is a State Significant Development and involves subdivision of the allotments and the development of a commercial precinct on Fifteenth Avenue (LFA (Pacific) Pty Ltd, 2015). The Secretary’s Environmental Assessment Requirements were received in February 2015 and amongst the plans and documents required was the need for an Arborist Report.

There are **86** trees that have been considered in this report of which, 76 trees are located on the site, 5 trees are located within the road reserve and 5 trees are located on the adjoining allotments. Of the **86** trees considered in this report based upon the proposed plans:

- **2** trees are to be retained, and
- **84** trees are proposed to be removed.

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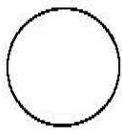
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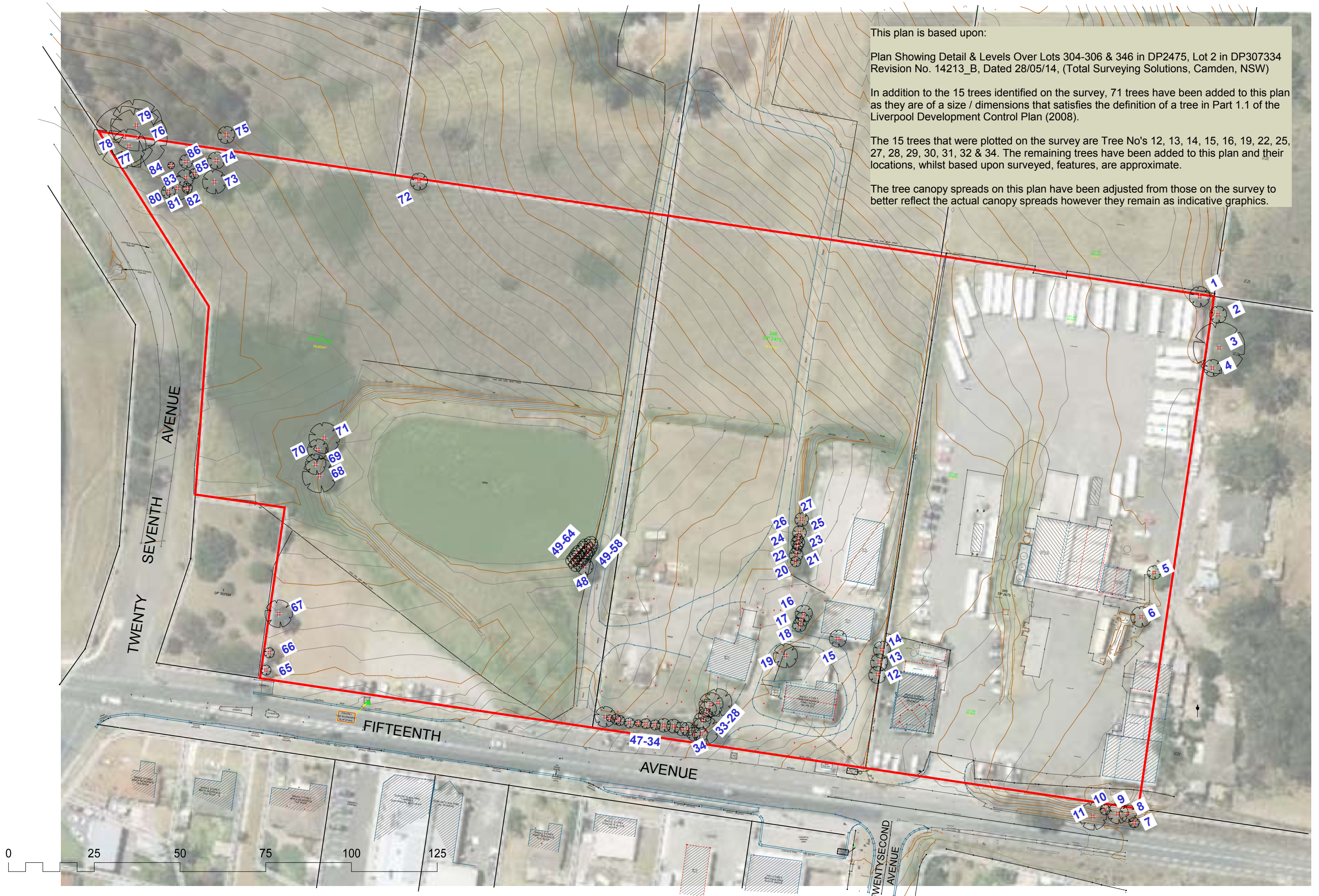
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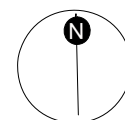
This plan is based upon:

Plan Showing Detail & Levels Over Lots 304-306 & 346 in DP2475, Lot 2 in DP307334
Revision No. 14213_B, Dated 28/05/14, (Total Surveying Solutions, Camden, NSW)

In addition to the 15 trees identified on the survey, 71 trees have been added to this plan as they are of a size / dimensions that satisfies the definition of a tree in Part 1.1 of the Liverpool Development Control Plan (2008).

The 15 trees that were plotted on the survey are Tree No's 12, 13, 14, 15, 16, 19, 22, 25, 27, 28, 29, 30, 31, 32 & 34. The remaining trees have been added to this plan and their locations, whilst based upon surveyed, features, are approximate.

The tree canopy spreads on this plan have been adjusted from those on the survey to better reflect the actual canopy spreads however they remain as indicative graphics.



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**arboricultural impact assessment
- fifteenth avenue commercial precinct**

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**existing site - tree locations &
reference numbers**

tree significance

significance in the environment

Trees need to be considered in the overall environment and are subject to specific legislation such as:

- Threatened Species Conservation Act (NSW) 1995, and
- Noxious Weeds Act (NSW) 1993.

Threatened Species Conservation Act (NSW) 1995

The Threatened Species Conservation Act lists in its schedules a number of species, populations or ecological communities that are either endangered or vulnerable. The Act requires the preparation of a species impact statement if an activity or development is going to have a significant effect on species, populations or endangered ecological communities listed in the schedules of the Act. Where identified on or adjacent the site, threatened tree species are considered in this report, however no attempt is made to identify threatened ecological communities or populations.

Noxious Weeds Act (NSW) 1993

The Noxious Weeds Act provides the Minister with the powers to issue an Order declaring a plant noxious and these plants can be either agricultural or significant environmental pest species. The Minister's declaration may specify a plant to be noxious in part or all of the State and the Minister also may specify the level of noxious weed control required for that species.

Environmental Pest Species

There are a number of environmental pest species that commonly cause problems in developed urban areas or readily spread into natural bushland areas. In urban areas these species can have aggressive root systems and cause damage to built structures or services. Alternatively some species can be problematic in natural bushland areas degrading habitats and reducing natural biodiversity. Many of these are not considered noxious but are recognised by Councils as pest species and are exempt from protection under Council's Tree Preservation Order.

significance in the landscape

Assessment of a tree's significance in the landscape is generally categorised as either:

- Very High Landscape Significance- prominent from a broad landscape perspective;
- High Landscape Significance - prominent from a neighbourhood perspective;
- Moderate Landscape Significance - prominent from adjacent areas surrounding the site, and
- Low Landscape Significance - prominent from a site perspective only.

tree condition & life expectancy

condition

The assessment of the trees condition is undertaken by visual inspection of the trees themselves, surrounding vegetation and the site conditions.

An assessment of each tree is undertaken taking into account the condition of the tree's roots, trunk, branches, foliage, previous pruning works, pests and disease, nesting hollows, fauna scratchings and the surrounding environment that may influence the condition of the tree.

Safe Useful Life Expectancy (SULE)

The condition information is used to determine the Safe Useful Life Expectancy (SULE) of each tree and takes into account the age of the tree, the life span of the species, local environment conditions, estimated life expectancy, the location of the tree and safety aspects.

The SULE method takes into account whether a tree can be retained with an acceptable level of risk based on the information available at the time of inspection. A SULE assessment is not static as it relates to the tree's health and the surrounding conditions. Whilst it is recognised that changes to the tree's condition will affect the assessment, changes to the surrounding environment may result in changes to the SULE assessment.

Table 1 Safe Useful Life Expectancy (SULE), (Barrell, 2001)

Category	Description
1	Long -Life span greater than 40 years
2	Medium - Life span from 15 to 40 years
3	Short - Life span from 5 to 15 years
4	Should be removed within 5 years
5	Small, Young or Regularly Pruned, Trees that can readily be moved or replaced.

In addition to the categories listed above, trees that show signs of imminent structural failure are listed as 'Unstable'.

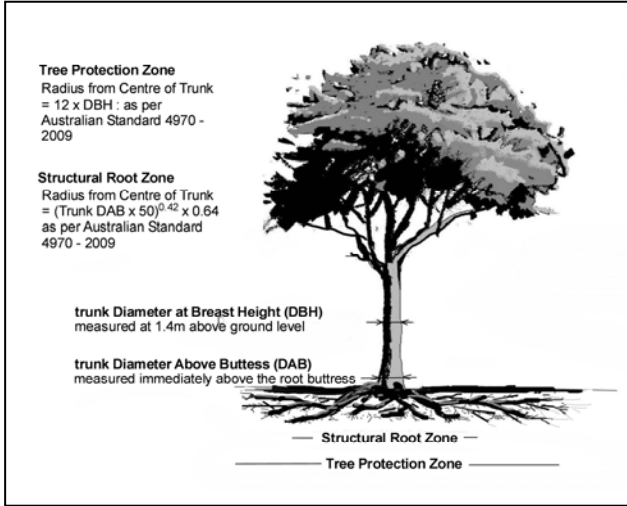
Unstable	Unstable in the ground or have significant trunk damage rendering them structurally hazardous.
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development planning & general impacts on trees

tree protection zones

Where trees are intended to be retained, development footprints should be located away from trees so as to provide adequate clearances for a tree protection zone. Disturbance within Tree Protection Zones can be detrimental to the tree's root system and in turn affect the stability, health and condition of the tree. In many cases damage to the root systems is the major cause of tree decline in urban areas.

Figure 3.1 Typical diagram of a Tree Protection Zone & Structural Root Zone of a tree based upon AS 4970 – 2009.



Where trees are multi-trunk specimens assessment needs to be made based upon the number of trunks and the diameter of each trunk. Based upon the Australian Standard for Protection of Trees on Development Sites, AS 4970 – 2009, the DBH of multi-trunk trees is calculated by:

$$DBH = \sqrt{(DBH_1)^2 + (DBH_2)^2 + (DBH_3)^2}$$

development design & Tree Protection Zones

Where trees are intended to be retained, proposed developments must provide an adequate Tree Protection Zone around trees. This Tree Protection Zone is set aside for the tree's root zone and it is essential for the stability and longevity of the tree. Existing soil levels should be retained within the Tree Protection Zone.

Based upon the Australian Standard for Protection of Trees on Development Sites, AS 4970 – 2009, the radius of the Tree Protection Zone (TPZ) is calculated as: TPZ = 12 x DBH with a minimum 2.0m radius and a maximum 15m radius.

developments within the Tree Protection Zone

Minor encroachments into Tree Protection Zones

Based upon AS 4970 – 2009 some development activity can occur within the vicinity of trees and minor encroachments can occur within the calculated Tree Protection Zone provided that:

- no more than 10% of the area (m2) of the Tree Protection Zone is removed (0.7 x TPZ radius on 1 side only);
- the encroachment does not extend into the Structural Root Zone, and
- the area (m2) to be removed is compensated for by increasing the distance of the Tree Protection Zone in other directions so that there is no net loss in area (m2) of the Tree Protection Zone

Major encroachments into Tree Protection Zones

Where the proposed development activity is greater than that described as a minor encroachment (refer above); the activity is considered to be a major encroachment into the Tree Protection Zone.

Where major encroachments are to occur within the Tree Protection Zone of trees intended to be retained, it must be demonstrated that the works or activities will not have a significant impact on the health and condition of the tree. To demonstrate this detailed root mapping investigation by non invasive methods may be necessary; and other factors such as the age class, health & vigour, trunk lean, disturbance tolerance of the species, and building design may need to be taken into account in the arboricultural assessment.

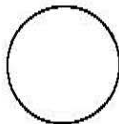
Where major encroachments are proposed to occur into the Tree Protection Zone the tree's Structural Root Zone should also be taken into account.

developments within the tree's Structural Root Zone

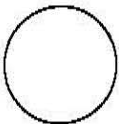
The Structural Root Zone is the area surrounding the tree where the severance of roots and excavation is likely to affect the structural stability of the tree and is likely to have a significant detrimental impact on the health & condition of the tree. Based upon AS 4970 – 2009 the radius of a tree's Structural Root Zone (SRZ) is determined by measuring the diameter of the trunk immediately above the root buttress (DAB) and calculated by: SRZ = (DAB x 50) 0.42 x 0.64.

Developments should not encroach into the tree's Structural Root Zone and existing soil levels must remain unchanged. Excavation should not occur within this area unless a detailed arboricultural assessment is undertaken and Specific Tree Protection measures will be required.

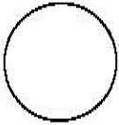
Tree No	Genus Species	Common Name	Height (m)	Canopy Spread (m)	DBH (mm)	DAB (mm)	Description	Environmental / Landscape Significance	Condition	Foliage Condition	% Canopy Dead Wood	Evidence of Pests, Disease, Cavity, Bracket Fungi	SULE	On / off site	TPZ Radius (m)	Area of TPZ (m2)
1	<i>Eucalyptus moluccana</i>	Grey Box	11	6	300	380	Mature single trunk tree with an upright forest form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Moderate L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Very Good	<5%	Trunk swelling is evident on the north eastern side at 1.5m indicating the possibility of an internal wound.	1	On site	3.60	40.73
2	<i>Eucalyptus moluccana</i>	Grey Box	10	5	1*300, 3*100	500	Mature multi trunk tree with an upright forest form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Moderate L/scape Sig.	The tree displays some signs of instability and its branch attachment appears fair. The tree is considered to be in moderate health and displays fair vigour.	Fair	15%	The base of the tree is damaged where a trunk has failed on the eastern side and trunk swelling is evident. Mistletoe is growing in the canopy	3	On adjacent allotment	4.16	54.31
3	<i>Eucalyptus crebra</i>	Narrow-Leaved Ironbark	17	15	750	850	Mature multi trunk tree with a tall forest form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	High L/scape Sig.	The tree appears stable and its branch attachment appears poor. The tree is considered to be in moderate health and displays good vigour.	Good	5%	The tree has an extensive trunk wound from the basal area to 4m and a severe bark inclusion in the main junction at 4m .	4	On adjacent allotment	9.00	254.57
4	<i>Eucalyptus moluccana</i>	Grey Box	11	5	360	400	Mature single trunk tree with a broad forest form; an upright trunk/s and majority of canopy and branch development is towards the south. No evidence of significant branch pruning.	Moderate L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	5%	The tree has a wound on the lower trunk from 0.2-1.2m with swelling and bark cracking.	1	On adjacent allotment	4.32	58.65
5	<i>Olea europaea subsp cuspidata</i>	African Olive	5	4	1*220, 2*90, 1*100, 1*200	380	Mature multi trunk tree with a broad spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Very Good	<5%	None evident	1	On site	4.06	51.86
6	<i>Melaleuca armillaris</i>	Bracelet Honey-myrtle	5	6	1*240, 1*150, 1*270, 1*380	460	Over mature multi trunk tree with a broad spreading form; an upright trunk/s and balanced canopy and branch development. Lower limbs of the tree have been pruned to 3m.	Low L/scape Sig.	The tree appears stable and its branch attachment appears fair. The tree is considered to be in poor health and displays poor vigour.	Poor	80%	The tree has basal bark inclusions.	4	On site	6.54	134.59
7	<i>Eucalyptus amplifolia</i>	Cabbage Gum	5	3	200	250	Semi-mature single trunk tree with an upright forest form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	5%	None evident	1	Within road reserve	2.40	18.10



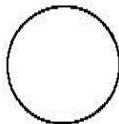
Tree No	Genus Species	Common Name	Height (m)	Canopy Spread (m)	DBH (mm)	DAB (mm)	Description	Environmental / Landscape Significance	Condition	Foliage Condition	% Canopy Dead Wood	Evidence of Pests, Disease, Cavity, Bracket Fungi	SULE	On / off site	TPZ Radius (m)	Area of TPZ (m2)
8	<i>Eucalyptus amplifolia</i>	Cabbage Gum	9	5	1*280, 1*300	650	Mature multi trunk tree with an upright spreading form; a distinct trunk lean to the south and majority of canopy and branch development is towards the south. Upper branches have been pruned to accommodate overhead wires on the northern side.	Moderate L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	5%	None evident	2	Within road reserve	4.92	76.21
9	<i>Eucalyptus amplifolia</i>	Cabbage Gum	13	6	2*340, 2*200, 2*120	550	Mature multi trunk tree with an upright forest form; an upright trunk/s and majority of canopy and branch development is towards the south. Upper branches have been pruned to accommodate overhead wires on the northern side.	Moderate L/scape Sig.	The tree appears stable and its branch attachment appears fair. The tree is considered to be in good health and displays good vigour.	Good	5%	The central leader is a dead stump 0.5m high with fungal growth present.	2	Within road reserve	7.11	158.94
10	<i>Eucalyptus amplifolia</i>	Cabbage Gum	13	3	2*270	520	Semi-mature twin trunk tree with an upright forest form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Moderate L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	<5%	None evident	1	Within road reserve	4.58	65.98
11	<i>Eucalyptus moluccana</i>	Grey Box	15	8	400	500	Mature single trunk tree with an upright forest form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	High L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Very Good	<5%	Mistletoe is growing on the tree at several points.	1	Within road reserve	4.80	72.41
12	<i>Schinus areira</i>	Peppercorn Tree	5	5	1*180, 1*200, 1*220	420	Mature multi trunk tree with a broad spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Moderate L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Very Good	5%	None evident	1	On site	4.17	54.67
13	<i>Ficus benjamina</i>	Weeping Fig	6	5	1*200, 4*120, 2*60	400	Semi-mature multi trunk tree with a broad spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Moderate L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Excellent	5%	None evident	1	On site	4.50	63.72
14	<i>Ficus benjamina</i>	Weeping Fig	6	5	1*200, 3*180, 2*100	420	Semi-mature multi trunk tree with a broad spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Moderate L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Excellent	5%	None evident	1	On site	4.80	72.28
15	<i>Araucaria columnaris</i>	Captain Cook's Pine	11	5	320	420	Semi-mature single trunk tree with an upright pyramidal form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Moderate L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	5%	None evident	1	On site	3.84	46.34
16	<i>Ficus virens</i>	White Fig	8	5	300	400	Mature a tree with an upright spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Moderate L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Very Good	<5%	None evident	1	On site	3.60	40.73
17	<i>Archontophoenix alexandrae</i>	Alexandra Palm	9	4	2*260	550	Mature twin trunk tree with an elevated spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Moderate L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Very Good	5%	None evident	2	On site	1.80	10.18
18	<i>Morus nigra</i>	Mulberry	4	4	340	450	Mature single trunk tree with an upright elliptical form; an upright trunk/s and balanced canopy and branch development. Appears that the central leader has been pruned/removed at 2m.	Low L/scape Sig.	The tree displays some signs of instability and its branch attachment appears fair. The tree is considered to be in poor health and displays poor vigour.	Fair	10%	The tree has a trunk lean, hollows in the lower trunk and basal bark cracking.	Unstable	On site	4.08	52.32
19	<i>Schinus areira</i>	Peppercorn Tree	7	7	2*400	450	Semi-mature multi trunk tree with a broad spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Moderate L/scape Sig.	The tree appears stable and its branch attachment appears fair. The tree is considered to be in good health and displays good vigour.	Good	5%	None evident	1	On site	6.79	144.82
20	<i>Alnus jorullensis</i>	Evergreen Alder	9	3	300	400	Mature single trunk tree with an upright form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Moderate L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	5%	There is minor cracking on the lower trunk and the foliage has reduced leaf size.	2	On site	3.60	40.73
21	<i>Alnus jorullensis</i>	Evergreen Alder	9	4	200	260	Semi-mature single trunk tree with an upright elliptical form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	5%	The tree appears to be suppressed by the adjacent vegetation	2	On site	2.40	18.10
22	<i>Alnus jorullensis</i>	Evergreen Alder	5	36	120	200	Semi-mature single trunk tree with an upright elliptical form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in moderate health and displays fair vigour.	Fair	20%	The tree appears to be suppressed by the adjacent vegetation and has a trunk wound from ground level to 3m.	4	On site	2.00	12.57
23	<i>Alnus jorullensis</i>	Evergreen Alder	4	3	200	300	Semi-mature single trunk tree with an upright form; an upright trunk/s and majority of canopy and branch development is towards the north east. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears fair. The tree is considered to be in moderate health and displays fair vigour.	Good	5%	Decay is evident at the base to 1.5m on the northern side. A leader has previously failed at 1.5m.	4	On site	2.40	18.10
24	<i>Syagrus romanzoffianum</i>	Cocos Palm	9	4	240	300	Mature single trunk tree with an elevated spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	5%	None evident	2	On site	1.40	6.16
25	<i>Alnus jorullensis</i>	Evergreen Alder	4	3	220	300	Mature single trunk tree with an upright spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in moderate health and displays fair vigour.	Fair	10%	The tree appears to be suppressed by the adjacent vegetation and there is a basal wound on the north western side.	4	On site	2.64	21.90
26	<i>Syagrus romanzoffianum</i>	Cocos Palm	6	4	240	350	Mature single trunk tree with an elevated spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	<5%	None evident	2	On site	1.30	5.31
27	<i>Syagrus romanzoffianum</i>	Cocos Palm	6	4	180	320	Semi-mature single trunk tree with an elevated rounded form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	5%	None evident	2	On site	1.00	3.14
28	<i>Syagrus romanzoffianum</i>	Cocos Palm	8	8	380	420	Mature single trunk tree with an elevated spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Moderate L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	<5%	None evident	2	On site	1.60	8.05
29	<i>Syagrus romanzoffianum</i>	Cocos Palm	8	7	360	400	Mature single trunk tree with an elevated rounded form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Moderate L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	<5%	None evident	2	On site	1.60	8.05
30	<i>Syagrus romanzoffianum</i>	Cocos Palm	6	5	240	280	Mature single trunk tree with an elevated spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Moderate L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	5%	None evident	2	On site	1.20	4.53
31	<i>Syagrus romanzoffianum</i>	Cocos Palm	6	4	220	340	Mature single trunk tree with an elevated spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	<5%	None evident	2	On site	1.30	5.31



Tree No	Genus Species	Common Name	Height (m)	Canopy Spread (m)	DBH (mm)	DAB (mm)	Description	Environmental / Landscape Significance	Condition	Foliage Condition	% Canopy Dead Wood	Evidence of Pests, Disease, Cavity, Bracket Fungi	SULE	On / off site	TPZ Radius (m)	Area of TPZ (m2)
32	<i>Syagrus romanzoffianum</i>	Cocos Palm	6	5	250	290	Mature single trunk tree with an elevated spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	5%	None evident	2	On site	1.20	4.53
33	<i>Ficus benjamina</i>	Weeping Fig	7	8	1*200, 1*220	600	Mature multi trunk tree with a broad spreading form; an upright trunk/s and balanced canopy and branch development. Lower limbs of the tree have been pruned to 3m.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Very Good	5%	The south eastern leaders have been poorly pruned.	1	On site	3.57	40.01
34	<i>Washingtonia robusta</i>	Cotton palm	13	4	600	1000	Mature single trunk tree with a tall spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Moderate L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Very Good	5%	The palm appears to be suppressed by the adjacent vegetation.	2	On site	7.20	162.93
35	<i>Syagrus romanzoffianum</i>	Cocos Palm	5	4	300	400	Mature single trunk tree with an elevated spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Moderate L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Fair	5%	The palm appears to be suppressed by the adjacent vegetation	3	On site	1.30	5.31
36	<i>Ficus benjamina</i>	Weeping Fig	5	4	1*100, 2*140, 1*150	300	Mature multi trunk tree with a broad spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Very Good	5%	The tree appears to be suppressed by the adjacent vegetation and trunk wound is evident on the southern side below 1m.	1	On site	3.21	32.45
37	<i>Grevillea robusta</i>	Silky Oak	10	4	200	280	Semi-mature single trunk tree with an upright pyramidal form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Very Good	5%	The tree appears to be suppressed by the adjacent vegetation	1	On site	2.40	18.10
38	<i>Eucalyptus sp.</i>	-	5	4	200	240	Semi-mature single trunk tree with an upright form; a slight trunk lean to the north east and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	5%	The tree appears to be suppressed by the adjacent vegetation	2	On site	2.40	18.10
39	<i>Grevillea robusta</i>	Silky Oak	6	4	3*100	200	Semi-mature multi trunk tree with an upright pyramidal form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Fair	5%	The tree has a sparse canopy.	1	On site	2.08	13.58
40	<i>Grevillea robusta</i>	Silky Oak	5	3	1*120, 1*140	200	Semi-mature multi trunk tree with a broad pyramidal form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Fair	5%	The tree has a sparse canopy.	2	On site	2.21	15.39
41	<i>Eucalyptus sp.</i>	-	4	5	120	180	Semi-mature single trunk tree with an upright forest form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	5%	The tree appears to be suppressed by the adjacent vegetation	1	On site	2.00	12.57
42	<i>Grevillea robusta</i>	Silky Oak	4	2	1*60, 1*70	220	Semi-mature single trunk tree with an upright pyramidal form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Fair	5%	The tree appears to be suppressed by the adjacent vegetation	1	On site	2.00	12.57
43	<i>Eucalyptus sp.</i>	-	4	3	180	200	Semi-mature single trunk tree with a broad spreading form; a slight trunk lean to the north east and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Fair	15%	The tree has twiggy deadwood throughout the canopy.	2	On site	2.16	14.66
44	<i>Eucalyptus sp.</i>	-	4	3	120	180	Semi-mature single trunk tree with an upright spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in moderate health and displays fair vigour.	Fair	5%	The tree appears to be suppressed by the adjacent vegetation	2	On site	2.00	12.57
45	<i>Grevillea robusta</i>	Silky Oak	8	5	200	280	Semi-mature single trunk tree with an upright pyramidal form; an upright trunk/s and majority of canopy and branch development is towards the south east. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in moderate health and displays fair vigour.	Fair	5%	The tree appears to be suppressed by the adjacent vegetation and has a sparse upper canopy.	1	On site	2.40	18.10
46	<i>Eucalyptus sp.</i>	-	7	2	180	200	Semi-mature single trunk tree with an upright forest form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in moderate health and displays fair vigour.	Fair	5%	The tree appears to be suppressed by the adjacent vegetation with the upper canopy exhibiting reduced leaf size.	2	On site	2.16	14.66
47	<i>Eucalyptus sp.</i>	-	7	6	200	240	Semi-mature single trunk tree with an upright forest form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Moderate L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	<5%	None evident	1	On site	2.40	18.10
48	<i>Alnus jorullensis</i>	Evergreen Alder	8	5	1*120, 1*200	360	Mature single trunk tree with an upright spreading form; an upright trunk/s and majority of canopy and branch development is towards the south. No evidence of significant branch pruning.	Moderate L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in moderate health and displays good vigour.	Fair	5%	The tree appears to be suppressed by the adjacent vegetation	2	On site	2.80	24.62
49	<i>Syagrus romanzoffianum</i>	Cocos Palm	7	5	200	320	Mature single trunk tree with an elevated spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	<5%	None evident	2	On site	1.20	4.53
50	<i>Syagrus romanzoffianum</i>	Cocos Palm	5	5	200	300	Mature single trunk tree with an elevated spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	<5%	None evident	2	On site	1.20	4.53
51	<i>Syagrus romanzoffianum</i>	Cocos Palm	5	5	220	340	Mature single trunk tree with an elevated spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	<5%	None evident	2	On site	1.20	4.53
52	<i>Syagrus romanzoffianum</i>	Cocos Palm	5	5	180	220	Mature single trunk tree with an elevated spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	<5%	None evident	2	On site	1.00	3.14
53	<i>Syagrus romanzoffianum</i>	Cocos Palm	6	5	240	380	Mature single trunk tree with an elevated spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	<5%	None evident	2	On site	1.20	4.53
54	<i>Syagrus romanzoffianum</i>	Cocos Palm	7	5	200	260	Mature single trunk tree with an elevated spreading form; a slight trunk lean to the north and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	<5%	None evident	2	On site	1.20	4.53
55	<i>Syagrus romanzoffianum</i>	Cocos Palm	6	5	200	300	Mature single trunk tree with an elevated spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	<5%	None evident	2	On site	1.20	4.53
56	<i>Syagrus romanzoffianum</i>	Cocos Palm	7	5	220	340	Mature single trunk tree with an elevated spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	<5%	None evident	2	On site	1.30	5.31



Tree No	Genus Species	Common Name	Height (m)	Canopy Spread (m)	DBH (mm)	DAB (mm)	Description	Environmental / Landscape Significance	Condition	Foliage Condition	% Canopy Dead Wood	Evidence of Pests, Disease, Cavity, Bracket Fungi	SULE	On / off site	TPZ Radius (m)	Area of TPZ (m2)
57	<i>Syagrus romanzoffianum</i>	Cocos Palm	7	5	280	380	Mature single trunk tree with an elevated spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	<5%	None evident	2	On site	1.40	6.16
58	<i>Syagrus romanzoffianum</i>	Cocos Palm	5	5	180	200	Mature single trunk tree with an elevated spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	<5%	None evident	2	On site	1.00	3.14
59	<i>Syagrus romanzoffianum</i>	Cocos Palm	6	5	220	240	Mature single trunk tree with an elevated spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	<5%	None evident	2	On site	1.20	4.53
60	<i>Syagrus romanzoffianum</i>	Cocos Palm	6	5	220	260	Mature single trunk tree with an elevated spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	<5%	None evident	2	On site	1.20	4.53
61	<i>Syagrus romanzoffianum</i>	Cocos Palm	6	5	220	280	Mature single trunk tree with an elevated spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	<5%	None evident	2	On site	1.20	4.53
62	<i>Syagrus romanzoffianum</i>	Cocos Palm	6	5	220	250	Mature single trunk tree with an elevated spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	<5%	None evident	2	On site	1.20	4.53
63	<i>Syagrus romanzoffianum</i>	Cocos Palm	7	5	240	320	Mature single trunk tree with an elevated spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	<5%	None evident	2	On site	1.30	5.31
64	<i>Syagrus romanzoffianum</i>	Cocos Palm	7	5	220	300	Mature single trunk tree with an elevated spreading form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	<5%	None evident	2	On site	1.30	5.31
65	<i>Eucalyptus amplifolia</i>	Cabbage Gum	8	3	1250	180	Immature single trunk tree with an upright forest form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	5%	None evident	1	On site	15.00	707.14
66	<i>Eucalyptus amplifolia</i>	Cabbage Gum	9	3	170	230	Semi-mature single trunk tree with an upright forest form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Fair	<5%	None evident	1	On site	2.04	13.08
67	<i>Eucalyptus moluccana</i>	Grey Box	11	8	340	400	Mature twin trunk (at 3m) tree with an upright forest form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Moderate L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	5%	Mistletoe in the lower canopy of the tree.	1	On site	4.08	52.32
68	<i>Eucalyptus moluccana</i>	Grey Box	13	10	380	450	Mature multi trunk (at 2m) tree with an upright forest form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	High L/scape Sig.	The tree appears stable and its branch attachment appears fair. The tree is considered to be in good health and displays good vigour.	Good	5%	The tree has included bark at 2m and mistletoe at various points of the tree.	1	On site	4.56	65.35
69	<i>Eucalyptus moluccana</i>	Grey Box	9	69	220	290	Semi-mature single trunk tree with an upright forest form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Moderate L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	5%	Mistletoe is growing at several points in the tree.	1	On site	2.64	21.90
70	<i>Eucalyptus moluccana</i>	Grey Box	10	6	300	340	Mature single trunk tree with an upright forest form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Moderate L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	5%	None evident	1	On site	3.60	40.73
71	<i>Eucalyptus moluccana</i>	Grey Box	13	9	370	430	Mature single trunk tree with an upright forest form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	High L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	5%	None evident	1	On site	4.44	61.96
72	<i>Acacia parramattensis</i>	Sydney Green Wattle	5	5	170	260	Mature single trunk tree with an upright pyramidal form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in moderate health and displays fair vigour.	Good	20%	There is evidence of frass and borers in the lower trunk.	4	On site	2.04	13.08
73	<i>Eucalyptus moluccana</i>	Grey Box	12	7	1*130, 1*260, 1*220	680	Mature multi trunk tree with a broad forest form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	High L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in moderate health and displays fair vigour.	Fair	20%	The tree has a sparse canopy cover and some epicormic growth.	1	On site	4.37	60.15
74	<i>Eucalyptus moluccana</i>	Grey Box	9	5	200	240	Semi-mature single trunk tree with an upright forest form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Moderate L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in moderate health and displays fair vigour.	Fair	5%	Mistletoe is growing in the canopy.	1	On site	2.40	18.10
75	<i>Eucalyptus moluccana</i>	Grey Box	11	5	270	370	Semi-mature multi trunk (at 1.8m) tree with an upright forest form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Moderate L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	20%	The tree has a sparse canopy with reduced leaf size and signs of dieback.	2	On adjacent allotment	3.24	32.99
76	<i>Eucalyptus moluccana</i>	Grey Box	22	17	750	1150	Over mature single trunk tree with a tall forest form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Very High L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in moderate health and displays fair vigour.	Fair	30%	The tree has a sparse canopy with reduced leaf size and signs of dieback.	3	On site	9.00	254.57
77	<i>Eucalyptus moluccana</i>	Grey Box	20	10	590	780	Mature single trunk tree with a tall forest form; an upright trunk/s and no branches or foliage. No evidence of significant branch pruning.	Very High L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in moderate health and displays fair vigour.	Fair	15%	Mistletoe is growing on the tree and the tree has a sparse canopy with reduced leaf size.	2	On site	7.08	157.54
78	<i>Eucalyptus moluccana</i>	Grey Box	22	18	990	1080	Mature multi trunk tree with a tall forest form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Very High L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	10%	The tree has a sparse canopy with several moderate bark inclusions.	1	On site	11.88	443.57
79	<i>Eucalyptus moluccana</i>	Grey Box	20	15	720	890	Mature twin trunk tree with a tall forest form; an upright trunk/s and majority of canopy and branch development is towards the north west. No evidence of significant branch pruning.	Very High L/scape Sig.	The tree appears stable and its branch attachment appears fair. The tree is considered to be in moderate health and displays fair vigour.	Fair	20%	The tree has an extensive trunk wound between 3m - 5m on the northern side where there is Longicorn Beetle damage.	2	On adjacent allotment	8.64	234.61
80	<i>Eucalyptus moluccana</i>	Grey Box	10	4	200	240	Semi-mature single trunk tree with an upright forest form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in moderate health and displays fair vigour.	Fair	10%	The tree has a sparse canopy with reduced leaf size.	1	On site	2.40	18.10
81	<i>Eucalyptus moluccana</i>	Grey Box	11	7	310	380	Semi-mature single trunk tree with an upright forest form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Moderate L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in moderate health and displays fair vigour.	Fair	10%	None evident	2	On site	3.72	43.49



Tree No	Genus Species	Common Name	Height (m)	Canopy Spread (m)	DBH (mm)	DAB (mm)	Description	Environmental / Landscape Significance	Condition	Foliage Condition	% Canopy Dead Wood	Evidence of Pests, Disease, Cavity, Bracket Fungi	SULE	On / off site	TPZ Radius (m)	Area of TPZ (m2)
82	<i>Eucalyptus moluccana</i>	Grey Box	5	3	2*100, 1*60	200	Semi-mature twin trunk tree with an upright forest form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in moderate health and displays fair vigour.	Fair	15%	None evident	1	On site	2.00	12.57
83	<i>Eucalyptus moluccana</i>	Grey Box	10	2	180	220	Semi-mature single trunk tree with an upright forest form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Moderate L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Good	5%	None evident	1	On site	2.16	14.66
84	<i>Eucalyptus moluccana</i>	Grey Box	10	3	1*180, 1*50	220	Semi-mature single trunk tree with an upright forest form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Moderate L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in good health and displays good vigour.	Fair	<5%	The tree has a sparse canopy with reduced leaf size.	1	On site	2.24	15.79
85	<i>Eucalyptus moluccana</i>	Grey Box	9	3	170	220	Semi-mature single trunk tree with an upright forest form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in moderate health and displays fair vigour.	Fair	20%	None evident	2	On site	2.04	13.08
86	<i>Eucalyptus moluccana</i>	Grey Box	12	4	170	230	Semi-mature single trunk tree with an upright forest form; an upright trunk/s and balanced canopy and branch development. No evidence of significant branch pruning.	Low L/scape Sig.	The tree appears stable and its branch attachment appears sound. The tree is considered to be in moderate health and displays fair vigour.	Fair	15%	The tree has a sparse canopy and sparse branching structure.	2	On site	2.04	13.08



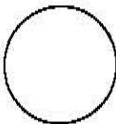
Figure 7.1 Trees in the north western portion of the site with Tree No. 76 the large Eucalypt in the centre (rear) of photo.

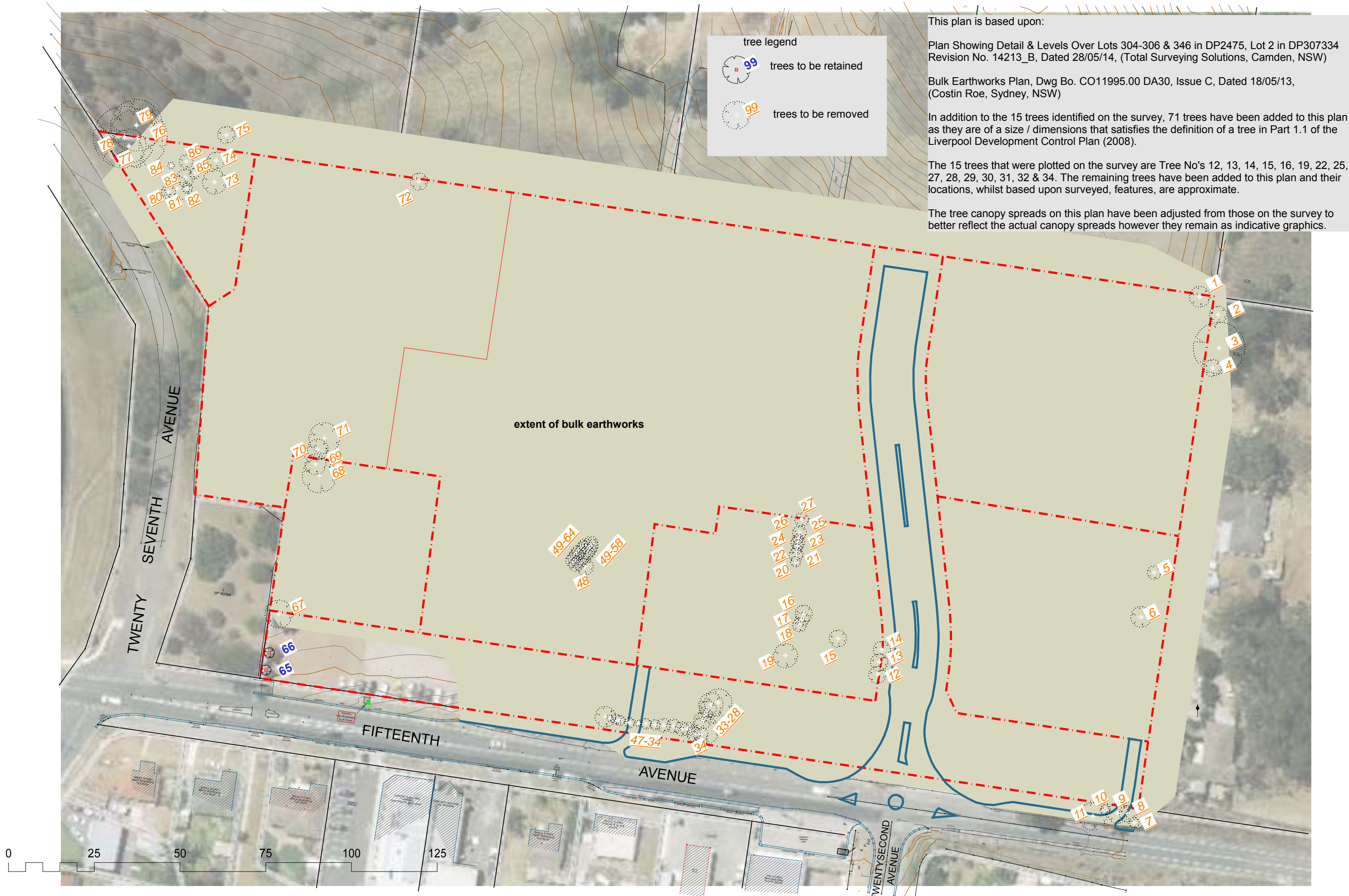


Figure 7.2 Looking east across the site with the group pf Cocos Palms, Tree No's 49-64 behind the dam (centre right).



Figure 7.3 Trees along the road frontage looking east with Tree No. 47 in the foreground (left) with Tree No's 11, 10, 9, & 8 in the background centre right)





This plan is based upon:

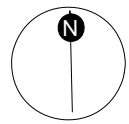
Plan Showing Detail & Levels Over Lots 304-306 & 346 in DP2475, Lot 2 in DP307334
Revision No. 14213_B, Dated 28/05/14, (Total Surveying Solutions, Camden, NSW)

Bulk Earthworks Plan, Dwg Bo. CO11995.00 DA30, Issue C, Dated 18/05/13,
(Costin Roe, Sydney, NSW)

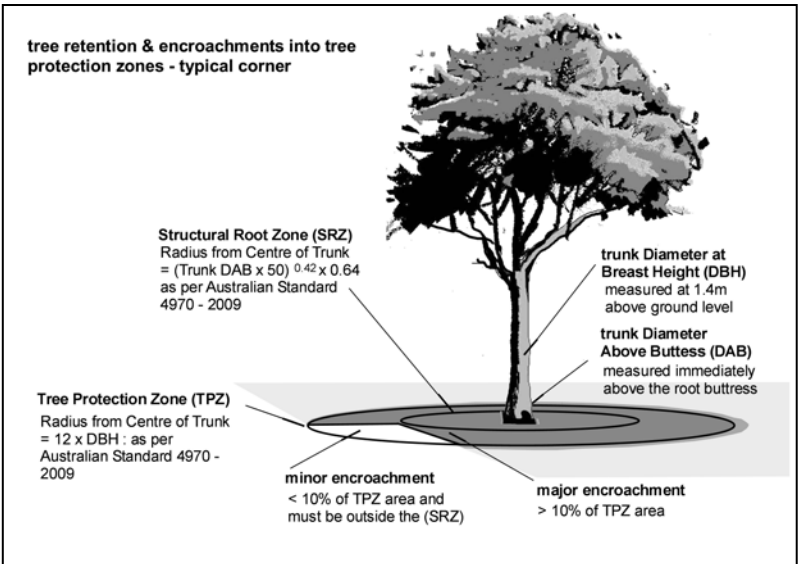
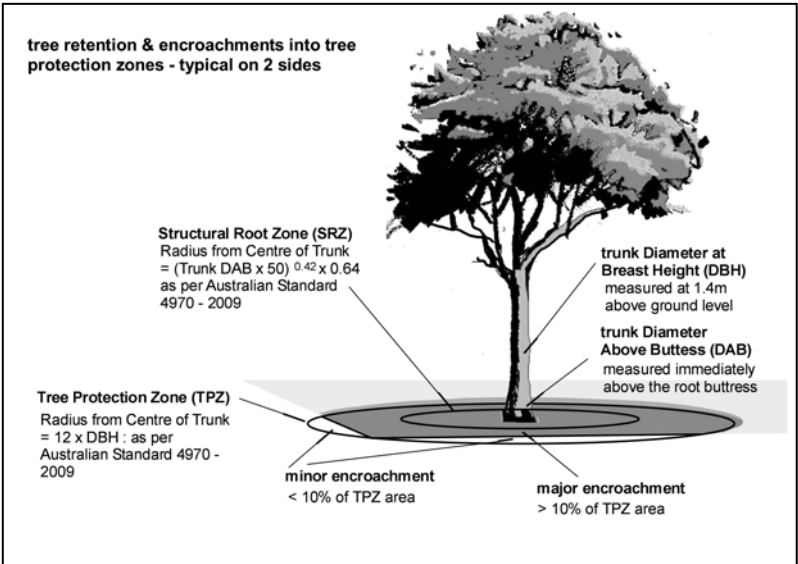
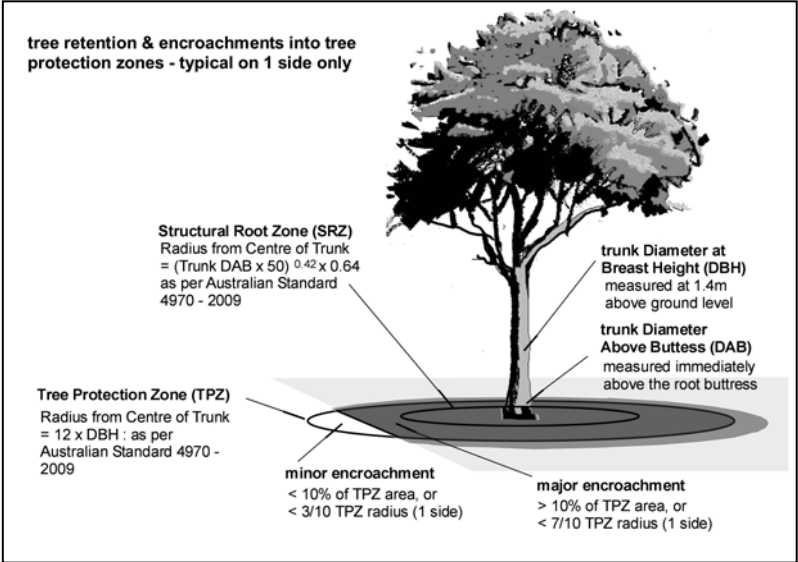
In addition to the 15 trees identified on the survey, 71 trees have been added to this plan
as they are of a size / dimensions that satisfies the definition of a tree in Part 1.1 of the
Liverpool Development Control Plan (2008).

The 15 trees that were plotted on the survey are Tree No's 12, 13, 14, 15, 16, 19, 22, 25,
27, 28, 29, 30, 31, 32 & 34. The remaining trees have been added to this plan and their
locations, whilst based upon surveyed, features, are approximate.

The tree canopy spreads on this plan have been adjusted from those on the survey to
better reflect the actual canopy spreads however they remain as indicative graphics.



typical application of Australian Standard 4970-2009 - Protection of Trees on Development Sites

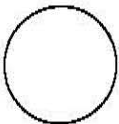


Tree No	Genus Species	DBH (mm)	DAB (mm)	SULE	Env./ L/scape Sig.	TPZ Radius (m)	Area of TPZ (m2)	Radius of 90% of TPZ area (7/10)	SRZ Radius (m)	Adjacent Works	Influence on Tree	Plan Status	On / off site
1	<i>Eucalyptus moluccana</i>	300	380	1	Moderate L/scape Sig.	3.60	40.73	2.52	2.20				On site
2	<i>Eucalyptus moluccana</i>	1*300, 3*100	500	3	Moderate L/scape Sig.	4.16	54.31	2.91	2.47				On adjacent allotment
3	<i>Eucalyptus crebra</i>	750	850	4	High L/scape Sig.	9.00	254.57	6.30	3.09				On adjacent allotment
4	<i>Eucalyptus moluccana</i>	360	400	1	Moderate L/scape Sig.	4.32	58.65	3.02	2.25				On adjacent allotment
5	<i>Olea europaea subsp cuspidata</i>	1*220, 2*90, 1*100, 1*200	380	1	Low L/scape Sig.	4.06	51.86	2.84	2.20				On site
6	<i>Melaleuca armillaris</i>	1*240, 1*150, 1*270, 1*380	460	4	Low L/scape Sig.	6.54	134.59	4.58	2.39				On site
7	<i>Eucalyptus amplifolia</i>	200	250	1	Low L/scape Sig.	2.40	18.10	1.68	1.85				Within road reserve
8	<i>Eucalyptus amplifolia</i>	1*280, 1*300	650	2	Moderate L/scape Sig.	4.92	76.21	3.45	2.76				Within road reserve
9	<i>Eucalyptus amplifolia</i>	2*340, 2*200, 2*120	550	2	Moderate L/scape Sig.	7.11	158.94	4.98	2.57				Within road reserve
10	<i>Eucalyptus amplifolia</i>	2*270	520	1	Moderate L/scape Sig.	4.58	65.98	3.21	2.51				Within road reserve
11	<i>Eucalyptus moluccana</i>	400	500	1	High L/scape Sig.	4.80	72.41	3.36	2.47				Within road reserve
12	<i>Schinus areira</i>	1*180, 1*200, 1*220	420	1	Moderate L/scape Sig.	4.17	54.67	2.92	2.30				On site
13	<i>Ficus benjamina</i>	1*200, 4*120, 2*60	400	1	Moderate L/scape Sig.	4.50	63.72	3.15	2.25				On site
14	<i>Ficus benjamina</i>	1*200, 3*180, 2*100	420	1	Moderate L/scape Sig.	4.80	72.28	3.36	2.30				On site
15	<i>Araucaria columnaris</i>	320	420	1	Moderate L/scape Sig.	3.84	46.34	2.69	2.30				On site
16	<i>Ficus virens</i>	300	400	1	Moderate L/scape Sig.	3.60	40.73	2.52	2.25				On site
17	<i>Archontophoenix alexandrae</i>	2*260	550	2	Moderate L/scape Sig.	1.80	10.18	1.26	1.26				On site
18	<i>Morus nigra</i>	340	450	Unstable	Low L/scape Sig.	4.08	52.32	2.86	2.37				On site
19	<i>Schinus areira</i>	2*400	450	1	Moderate L/scape Sig.	6.79	144.82	4.75	2.37				On site
20	<i>Alnus jorullensis</i>	300	400	2	Moderate L/scape Sig.	3.60	40.73	2.52	2.25				On site
21	<i>Alnus jorullensis</i>	200	260	2	Low L/scape Sig.	2.40	18.10	1.68	1.88				On site
22	<i>Alnus jorullensis</i>	120	200	4	Low L/scape Sig.	2.00	12.57	1.40	1.68				On site
23	<i>Alnus jorullensis</i>	200	300	4	Low L/scape Sig.	2.40	18.10	1.68	2.00				On site

The proposed bulk earthworks spatially conflict with the location of the tree.

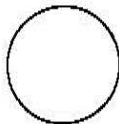
Note applicable

To be Removed



Tree No	Genus Species	DBH (mm)	DAB (mm)	SULE	Env./ L/scape Sig.	TPZ Radius (m)	Area of TPZ (m2)	Radius of 90% of TPZ area (7/10)	SRZ Radius (m)	Adjacent Works	Influence on Tree	Plan Status	On / off site
24	<i>Syagrus romanzoffianum</i>	240	300	2	Low L/scape Sig.	1.40	6.16	0.98	0.98	The proposed bulk earthworks spatially conflict with the location of the tree.	Note applicable	To be Removed	On site
25	<i>Alnus jorullensis</i>	220	300	4	Low L/scape Sig.	2.64	21.90	1.85	2.00				On site
26	<i>Syagrus romanzoffianum</i>	240	350	2	Low L/scape Sig.	1.30	5.31	0.91	0.91				On site
27	<i>Syagrus romanzoffianum</i>	180	320	2	Low L/scape Sig.	1.00	3.14	0.70	0.70				On site
28	<i>Syagrus romanzoffianum</i>	380	420	2	Moderate L/scape Sig.	1.60	8.05	1.12	1.12				On site
29	<i>Syagrus romanzoffianum</i>	360	400	2	Moderate L/scape Sig.	1.60	8.05	1.12	1.12				On site
30	<i>Syagrus romanzoffianum</i>	240	280	2	Moderate L/scape Sig.	1.20	4.53	0.84	0.84				On site
31	<i>Syagrus romanzoffianum</i>	220	340	2	Low L/scape Sig.	1.30	5.31	0.91	0.91				On site
32	<i>Syagrus romanzoffianum</i>	250	290	2	Low L/scape Sig.	1.20	4.53	0.84	0.84				On site
33	<i>Ficus benjamina</i>	1*200, 1*220	600	1	Low L/scape Sig.	3.57	40.01	2.50	2.67				On site
34	<i>Washingtonia robusta</i>	600	1000	2	Moderate L/scape Sig.	7.20	162.93	5.04	3.31				On site
35	<i>Syagrus romanzoffianum</i>	300	400	3	Moderate L/scape Sig.	1.30	5.31	0.91	0.91				On site
36	<i>Ficus benjamina</i>	1*100, 2*140, 1*150	300	1	Low L/scape Sig.	3.21	32.45	2.25	2.00				On site
37	<i>Grevillea robusta</i>	200	280	1	Low L/scape Sig.	2.40	18.10	1.68	1.94				On site
38	<i>Eucalyptus sp.</i>	200	240	2	Low L/scape Sig.	2.40	18.10	1.68	1.82				On site
39	<i>Grevillea robusta</i>	3*100	200	1	Low L/scape Sig.	2.08	13.58	1.45	1.68				On site
40	<i>Grevillea robusta</i>	1*120, 1*140	200	2	Low L/scape Sig.	2.21	15.39	1.55	1.68				On site
41	<i>Eucalyptus sp.</i>	120	180	1	Low L/scape Sig.	2.00	12.57	1.40	1.61				On site
42	<i>Grevillea robusta</i>	1*60, 1*70	220	1	Low L/scape Sig.	2.00	12.57	1.40	1.75				On site
43	<i>Eucalyptus sp.</i>	180	200	2	Low L/scape Sig.	2.16	14.66	1.51	1.68				On site
44	<i>Eucalyptus sp.</i>	120	180	2	Low L/scape Sig.	2.00	12.57	1.40	1.61				On site
45	<i>Grevillea robusta</i>	200	280	1	Low L/scape Sig.	2.40	18.10	1.68	1.94				On site
46	<i>Eucalyptus sp.</i>	180	200	2	Low L/scape Sig.	2.16	14.66	1.51	1.68				On site
47	<i>Eucalyptus sp.</i>	200	240	1	Moderate L/scape Sig.	2.40	18.10	1.68	1.82				On site
48	<i>Alnus jorullensis</i>	1*120, 1*200	360	2	Moderate L/scape Sig.	2.80	24.62	1.96	2.15				On site

Tree No	Genus Species	DBH (mm)	DAB (mm)	SULE	Env./ L/scape Sig.	TPZ Radius (m)	Area of TPZ (m2)	Radius of 90% of TPZ area (7/10)	SRZ Radius (m)	Adjacent Works	Influence on Tree	Plan Status	On / off site
49	<i>Syagrus romanzoffianum</i>	200	320	2	Low L/scape Sig.	1.20	4.53	0.84	0.84	The proposed bulk earthworks spatially conflict with the location of the tree.	Note applicable	To be Removed	On site
50	<i>Syagrus romanzoffianum</i>	200	300	2	Low L/scape Sig.	1.20	4.53	0.84	0.84				On site
51	<i>Syagrus romanzoffianum</i>	220	340	2	Low L/scape Sig.	1.20	4.53	0.84	0.84				On site
52	<i>Syagrus romanzoffianum</i>	180	220	2	Low L/scape Sig.	1.00	3.14	0.70	0.70				On site
53	<i>Syagrus romanzoffianum</i>	240	380	2	Low L/scape Sig.	1.20	4.53	0.84	0.84				On site
54	<i>Syagrus romanzoffianum</i>	200	260	2	Low L/scape Sig.	1.20	4.53	0.84	0.84				On site
55	<i>Syagrus romanzoffianum</i>	200	300	2	Low L/scape Sig.	1.20	4.53	0.84	0.84				On site
56	<i>Syagrus romanzoffianum</i>	220	340	2	Low L/scape Sig.	1.30	5.31	0.91	0.91				On site
57	<i>Syagrus romanzoffianum</i>	280	380	2	Low L/scape Sig.	1.40	6.16	0.98	0.98				On site
58	<i>Syagrus romanzoffianum</i>	180	200	2	Low L/scape Sig.	1.00	3.14	0.70	0.70				On site
60	<i>Syagrus romanzoffianum</i>	220	260	2	Low L/scape Sig.	1.20	4.53	0.84	0.84	No proposed works within the tree's Tree Protection Zone	No significant impact with appropriate Tree Protection Measures.	Retained with General Tree Protection Measures	On site
61	<i>Syagrus romanzoffianum</i>	220	280	2	Low L/scape Sig.	1.20	4.53	0.84	0.84				On site
62	<i>Syagrus romanzoffianum</i>	220	250	2	Low L/scape Sig.	1.20	4.53	0.84	0.84				On site
63	<i>Syagrus romanzoffianum</i>	240	320	2	Low L/scape Sig.	1.30	5.31	0.91	0.91				On site
64	<i>Syagrus romanzoffianum</i>	220	300	2	Low L/scape Sig.	1.30	5.31	0.91	0.91				On site
65	<i>Eucalyptus amplifolia</i>	1250	180	1	Low L/scape Sig.	15.00	707.14	10.50	1.61				On site
66	<i>Eucalyptus amplifolia</i>	170	230	1	Low L/scape Sig.	2.04	13.08	1.43	1.79				On site
67	<i>Eucalyptus moluccana</i>	340	400	1	Moderate L/scape Sig.	4.08	52.32	2.86	2.25				On site
68	<i>Eucalyptus moluccana</i>	380	450	1	High L/scape Sig.	4.56	65.35	3.19	2.37	The proposed bulk earthworks are within 3.4m (north) of the tree.	No significant impact with appropriate Tree Protection Measures.	Retained with General Tree Protection Measures	On site
69	<i>Eucalyptus moluccana</i>	220	290	1	Moderate L/scape Sig.	2.64	21.90	1.85	1.97				On site
70	<i>Eucalyptus moluccana</i>	300	340	1	Moderate L/scape Sig.	3.60	40.73	2.52	2.10				On site
71	<i>Eucalyptus moluccana</i>	370	430	1	High L/scape Sig.	4.44	61.96	3.11	2.32				On site
72	<i>Acacia parramattensis</i>	170	260	4	Low L/scape Sig.	2.04	13.08	1.43	1.88				On site
73	<i>Eucalyptus moluccana</i>	1*130, 1*260, 1*220	680	1	High L/scape Sig.	4.37	60.15	3.06	2.81				On site
73	<i>Eucalyptus moluccana</i>	1*130, 1*260, 1*220	680	1	High L/scape Sig.	4.37	60.15	3.06	2.81	The proposed bulk earthworks spatially conflict with the location of the tree.	Note applicable	To be Removed	On site
													On site



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project

drawing title

arboricultural impact assessment
- fifteenth avenue commercial precinct

impact of proposed development
on individual trees

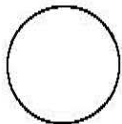
Tree No	Genus Species	DBH (mm)	DAB (mm)	SULE	Env./ L/scape Sig.	TPZ Radius (m)	Area of TPZ (m2)	Radius of 90% of TPZ area (7/10)	SRZ Radius (m)	Adjacent Works	Influence on Tree	Plan Status	On / off site
73	<i>Eucalyptus moluccana</i>	1*130,	680	1	High L/scape Sig.	4.37	60.15	3.06	2.81	The proposed bulk earthworks spatially conflict with the location of the tree.	Note applicable		On site
74	<i>Eucalyptus moluccana</i>	1*260, 1*220 200	240	1	Moderate L/scape Sig.	2.40	18.10	1.68	1.82				On site
75	<i>Eucalyptus moluccana</i>	270	370	2	Moderate L/scape Sig.	3.24	32.99	2.27	2.18				On adjacent allotment
76	<i>Eucalyptus moluccana</i>	750	1150	3	Very High L/scape Sig.	9.00	254.57	6.30	3.51				On site
77	<i>Eucalyptus moluccana</i>	590	780	2	Very High L/scape Sig.	7.08	157.54	4.96	2.98				On site
78	<i>Eucalyptus moluccana</i>	990	1080	1	Very High L/scape Sig.	11.88	443.57	8.32	3.42	The proposed bulk earthworks are within 0.7m (south east) of the tree.	Excavation is likely to involve severance of significant tree roots resulting in the decline of the tree and/or rendering it unstable.		On site
79	<i>Eucalyptus moluccana</i>	720	890	2	Very High L/scape Sig.	8.64	234.61	6.05	3.15	The proposed bulk earthworks spatially conflict with the location of the tree.	Excavation is likely to involve severance of significant tree roots resulting in the decline of the tree and/or rendering it unstable.	To be Removed	On adjacent allotment
80	<i>Eucalyptus moluccana</i>	200	240	1	Low L/scape Sig.	2.40	18.10	1.68	1.82				On site
81	<i>Eucalyptus moluccana</i>	310	380	2	Moderate L/scape Sig.	3.72	43.49	2.60	2.20				On site
82	<i>Eucalyptus moluccana</i>	2*100, 1*60	200	1	Low L/scape Sig.	2.00	12.57	1.40	1.68				On site
83	<i>Eucalyptus moluccana</i>	180	220	1	Moderate L/scape Sig.	2.16	14.66	1.51	1.75				On site
84	<i>Eucalyptus moluccana</i>	1*180, 1*50	220	1	Moderate L/scape Sig.	2.24	15.79	1.57	1.75				On site
85	<i>Eucalyptus moluccana</i>	170	220	2	Low L/scape Sig.	2.04	13.08	1.43	1.75				On site
86	<i>Eucalyptus moluccana</i>	170	230	2	Low L/scape Sig.	2.04	13.08	1.43	1.79				On site



Figure 11.1 View of the site looking south with Tree No's 74 & 73 adjacent the small dam in the north western corner of the site.



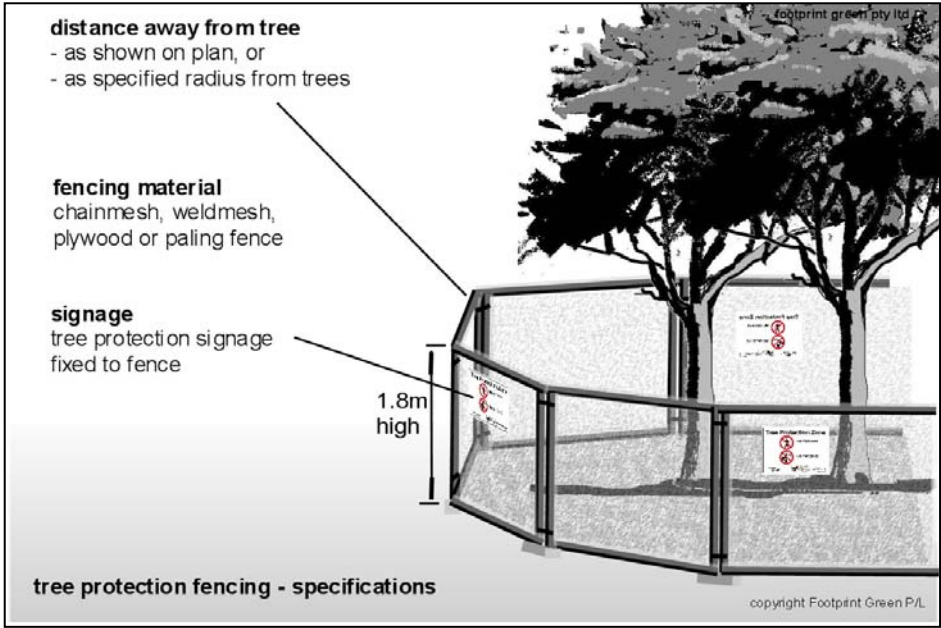
Figure 11.2 The existing dwelling at 195-215 Fifteenth Avenue looking south with Tree No's 16, 17 & 18 (centre left) and Tree No. 19 (centre right)



tree protection measures

general tree protection measures

Prior to demolition earthworks or construction, secure protective fencing is to be erected as shown on sheet 7 of this report.



Prior to demolition or construction, secure protective fencing is to incorporate Tree Protection Zone Signage



The building contractor shall ensure that at all times during site works no activities, stock piles, storage or disposal of materials shall take place within the fenced off areas and that all Protective Fences remain secure throughout the development work period.

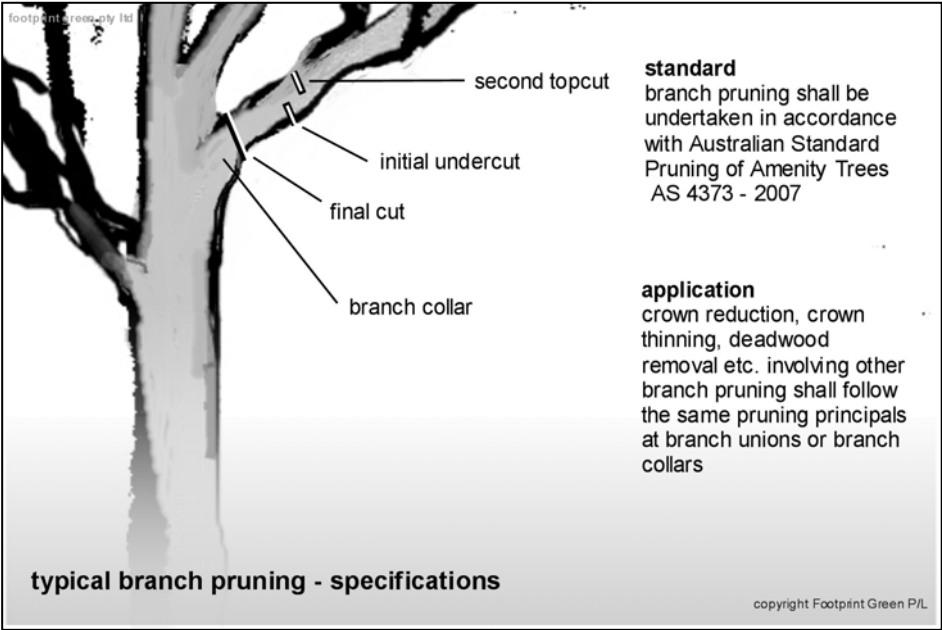
All access within the tree protection fencing for temporary and permanent works must be carried out under the instructions of an experienced and qualified project arborist.

Tree Protection Fencing shall remain in functional condition for the duration of building works and can be removed to allow for works identified in the landscape plan.

Specific excavation for services that require critical fall (eg. sewer, stormwater) may be undertaken within the tree protection zones only under the direct supervision of the project arborist.

Any tree damage that occurs to trees or tree roots during site works is to be treated by an experienced and qualified arborist.

Should branch pruning be required, all pruning works including the removal of deadwood are to be undertaken in accordance with Australian Standard AS 4373-2007 Pruning of Amenity Trees and the work is to be undertaken by an experienced and qualified arborist.



tree report summary

conclusion

This report has been prepared to assess the condition and significance of a number of trees on the properties known as Lot 2 in DP307334 and Lots 345 & 346 in DP2475, West Hoxton and assess the potential impact of the proposed development on the identified trees.

The assessments carried out in this report are based upon the Australian Standard 4970 - 2009, Protection of Trees on Development Sites. The terminology used in this report is also consistent with that used in the AS 4970-2009. The definition of a tree in this report is consistent with that described in Part 1.1 of the Liverpool Development Control Plan (2008) being "any perennial plant that has a: Height greater than 3.5 metres; and/or Canopy spread greater than 4 metres; and/or Primary trunk diameter greater than 400 millimetres when measured 1 metre above existing ground level of the tree".

The site is situated on the northern side of Fifteenth Avenue, West Hoxton and covers an area of approximately 4.3 hectares. The site contains open pastures used for grazing with 2 dams, a residential dwelling with a number of sheds used for agricultural purposes and an allotment containing a bus depot and maintenance sheds.

The proposed development is a State Significant Development and involves subdivision of the allotments and the development of a commercial precinct on Fifteenth Avenue (LFA (Pacific) Pty Ltd, 2015). The Secretary's Environmental Assessment Requirements were received in February 2015 and amongst the plans and documents required was the need for an Arborist Report.

There are **86** trees that have been considered in this report of which, 76 trees are located on the site, 5 trees are located within the road reserve and 5 trees are located on the adjoining allotments. Of the **86** trees considered in this report based upon the proposed plans:

- 2 trees are to be retained and
- 84 trees are proposed to be removed.

Details of the 2 Trees to be Retained (number of trees)e						
Condition	Environmental / Landscape Significance					
	Noxious	Env. Pest (Exempt from DCP)	Low L/scape Sig.	Moderate L/scape Sig.	High L/scape Sig.	Very High L/scape Sig.
SULE - 1			2			
SULE - 2						
SULE - 3						
SULE - 4						
Unstable						

Details of the 84 Trees to be Removed (number of trees)						
Condition	Environmental / Landscape Significance					
	Noxious	Env. Pest (Exempt from DCP)	Low L/scape Sig.	Moderate L/scape Sig.	High L/scape Sig.	Very High L/scape Sig.
SULE - 1			11	16	4	1
SULE - 2			29	11		2
SULE - 3				2		1
SULE - 4			5		1	
Unstable			1			

