WARRINGAH COUNCIL

Development Application
Tree Removal and Tree Pruning

Made under the Environmental Planning and Assessment Act 1979 (Sections 78A) for works associated with a Complying Development Certificate Application

Address the application to:

- ☒ The General Manager
  Warringah Council
  Civic Centre, 725 Pittwater Rd
  Dee Why NSW 2099

Or

- ☒ Customer Service Centre
  Warringah Council
  DX 9118
  Dee Why

If you need help lodging your application:

- ☒ Phone our Customer Service Centre on (02) 9942 2111 or come in and talk to us

October 2013

Office Use Only
☐ WLEP 2000 Locality
☐ WLEP 2011 Zone

DA2014/0990

☐ Owners Consent	☐ Flood Zone
☐ Lot and DP	☐ Riparian Zone
☐ 40m Buffer	☐ Vegetation/ Threatened
☐ Acid Sulfate	☐ Wave Impact
☐ Bushfire Zone	☐ Coastal Zone
☐ Heritage	☐ 100m MHWM
☐ Slip Zone	

For applicable fees and charges, please refer to Council's website: www.warringah.nsw.gov.au or contact our Customer Service Centre.

Privacy and Personal Information Protection Notice

The personal information requested in this form is required by or under the Environmental Planning and Assessment Act 1979 and will only be used by Warringah Council in connection with the requirements of that Act and any other relevantly applicable legislation relating to the subject-matter of this application. The information is being collected for the following purposes, namely, to enable us to (1) process and determine your application; (2) contact you in relation to your application should that be necessary; and (3) keep the public informed by making the application publicly accessible. If you do not provide the information, Council will not be able to process your application, and your application will be rejected.

Your application will be available to Councillors and Council Officers. Members of the public have certain rights of access to information and documents held by Council under the Government Information (Public Access) Act 2009 (GIPA), and under the Privacy and Personal Information Protection Act 1998 (NSW) to the extent permitted by those Acts.

Warringah Council is to be regarded as the agency that holds the information, which will be stored on Council's records management system or in archives and may be displayed on E-Services Online (except as regards to personal particulars). You have a right to access information within the meaning of the Privacy and Personal Information Protection Act 1998 (NSW) on application to Council, and to have that information updated or corrected as necessary. Please contact Warringah Council if the information you have provided is incorrect or changes or if access is otherwise sought to the information. In addition, a person may request that any material that is available (or is to be made available) for public inspection by or under the Local Government Act 1993 (NSW) be prepared or amended so as to omit or remove any matter that would disclose or discloses the person's place of living if the person considers that the disclosure would place or places the personal safety of the person or of members of the person's family at risk. Any such request must be made to Council's General Manager· see s 739 of the Local Government Act 1993 (NSW)

Part 1 Summary Applicant(s) Details

Applicant(s) name: SCENTRE DESIGN & CONSTRUCTION P/L

Owner(s) name:

If any owner/applicant of this development application is a current employee or elected representative of Warringah Council.

Warringah Council Employee Yes ☐ Elected Representative Yes ☐

Part 2 Application Details

2.1 Location of the property

We need this to correctly identify the land. These details are shown on your rates notice, property title etc

Unit no.: | House no.: 145 | Street: OLD PITTWATER RD

Suburb: BROOKVALE

Legal property description: Lot 100 Sect DP/SP DP 1015283

This information must be supplied

Part 2 Application Details

2.2 Exemptions

Council consent is not required for removal if the tree is less than 5 metres in height or seven (7) metres in canopy width, the tree is dead, a noxious weed, is referred to in the list of exempt species in Appendix 5 of WDCP, or is considered dangerous to life or property.

If a level 5 qualified arborist provides written confirmation that a tree is dangerous to life or property, the tree can be removed without obtaining Consent from Council. Please forward a copy of the arborist's report to Council prior to removal if practical.

You may also prune a tree by less than 10% of the foliage within a 12 month period without Council consent.

2.3 Application Fee

$110 - Fee to be confirmed with Council's current Fees and Charges

2.4 Owners Consent

The owner of the land on which the tree(s) are located must sign the consent on the application.

Any consent issued as a result of this application is not a directive or order and does not oblige the owner to undertake the consented works. The consent is valid for **five years** from the date on the determination.

2.5 Description of works

Please provide details of the work to be carried out in the box below

Tree no.	Tree species (if known)	Work required (prune/remove/assess)	Reason for the work
1	REFER ARBORIST REPORT + DRAWING 06.0201		
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			

Please indicate whether any of the above trees are considered dangerous to life or property. Please refer to section 2.2 Exemptions

Part 2 Application Details

2.6 Sketch

Please indicate in the box on the right:

Sketch the outline of the allotment, street, position of structures eg. house, garage and the location of each tree as numbered in 2.3

Please tie a yellow ribbon around the tree trunk.

Are there any dogs on the property?

Yes ☐ No ☑

Are there any locked gates blocking access?

Yes ☐ No ☑

REFER ATTACHED DRAWING 06.0201

DRAWING PREPARED IN ACCORDANCE WITH DA 2008/1741 CONDITION 30.

N ↑

Indicate location of all underground infrastructure such as pipes, sewer etc within 5 metres of the tree

2.7 Integrated development

Is this application for integrated development?

Please tick appropriate boxes

Yes ☐ No ☑

Integrated development is development that requires licences or approvals from other consent authorities. Most forms of development will not be "integrated". See Part 4, Division 5, Section 91 of the Environmental Planning and Assessment Act 1979 -www.legislation.nsw.gov.au. If integrated additional payment (by Cheque) is required to relevant authority.

Fisheries Management Act 1994	☐ s144	☐ s201	☐ s205	☐ s219	
Heritage Act 1977	☐ s58				
Mine Subsidence Compensation Act 1961	☐ s15				
Mining Act 1992	☐ s63	☐ s64			
National Parks and Wildlife Act 1974	☐ s90				
Petroleum (Onshore) Act 1991	☐ s9				
Protection of the Environment Operations Act 1997	☐ s43(a),(b),(d)	☐ s47	☐ s48	☐ s55	☐ s122
Roads Act 1993	☐ s138				
Rural Fires Act 1997	☐ s100B				
Water Management Act 2000	☐ s89	☐ s90	☐ s91		

Part 2 Application Details

2.8 Disclosure of political donations and gifts

Note: gift means a gift within the meaning of section 84 of the Election Funding & Disclosures Act 1981 Failure to disclosure relevant information is considered an offence under Part 6 section 96H of the Election Funding and Disclosures Act 1981

Under section 147 of the Environmental Planning and Assessment Act 1979 any reportable political donation to an elected representative of Warringah Council (Mayor or Councillor) and/or any gift to an elected representative or Warringah Council employee within a two (2) year period commencing two (2) years before the date of this application and ending when the application is determined must be disclosed.

Are you aware of any person with a financial interest in this application who made a reportable donation or gave a gift in the last two (2) years. ☐ Yes ☑ No

If yes, complete the Political Donation Declaration and lodge it with this application. If no, in signing this application I undertake to advise the Council in writing if I become aware of any person with a financial interest in this application who has made a political donation or has given a gift in the period from the date of lodgement of this application and the date of its determination.

For further information visit Councils website at:
www.warringah.nsw.gov.au/plan_dev/PoliticalDonationsBill.aspx

Development Application Checklist

Required	Supplied Yes	Supplied No
DO YOU HAVE OWNER(S) CONSENT? (All owners of the property must give consent). (NOTE: If the trunk of the tree is located across property boundaries, consent of **ALL** owners of **EACH** property is required)	☑	☐
HAVE YOU ATTACHED A SKETCH OF THE PROPERTY? (All trees to be inspected are to be clearly marked on the sketch and on site with tape, ribbon, paint spot or numbered tag)	☑	☐
If you have indicated that the application is Integrated Development HAVE YOU ATTACHED A CHEQUE? Please discuss with Council.	☐	☑
SUPPORTING DOCUMENTATION? Have you attached all relevant documentation, reports, photographs in <u>support</u> of the application? e.g. below		
• Aborist's Report (in accordance with Appendix of WDCP) Note: Council's assessment of your tree will be a visual observation made at ground level. Should your tree require detailed inspection or assessment of features located more than 2 metres above ground level, or below ground such as root mapping, to justify your application, you must provide a report from a qualified level 5 arborist detailing these issues	☑	☐
• Sewer diagram, Plumbers report	☐	N/A
• Structural Engineers report detailing damage to property and why alternatives to removing the tree are not feesible	☐	N/A
<u>Exempt and Complying Development</u> Is this application required as part of an Exempt or Complying Development?	☐	☑
If **Yes** - have you attached <u>all relevant plans?</u> A Site Plan showing existing and proposed development with trees identified in Part 2.5. Warringah Development Control Plan, Part H, Appendix 11 - Class 2-9 Building and Appendix 12 - Tree Protection Plan may apply.	☑	☐

JACKSONS NATURE WORKS
34 CALOOLA CRESCENT, BEVERLY HILLS 2209
9 150 4430
0 4 18) 414 502

ARBORICULTURAL ASSESSMENT REPORT

at

WESTFIELD WARRINGAH STORMWATER AUGMENTATION
Cnr Cross & Green Streets

Prepared for

Westfield Design

Prepared by: Ross Jackson
Dip. Horticulture (Arboriculture – AQF L 5)
Certificate III in Horticulture (Arboriculture)
Certificate in Horticulture (Landscape)

Member of the Arboriculture Australia (MAA)
Member of the Australian Institute of Horticulture
Registered Consulting Arborist Nos.1695

DISCLAIMER

The Client acknowledges that this Report, and any opinions, advice or recommendations expressed or given in it, are the information supplied by the Client and on the data inspections, measurements and analysis carried out or obtained by Jacksons Nature Works (JNW) and referred to in the Report. The Client should rely on The Report, and on its contents, only to that extent.

Care has been taken to obtain all information from reliable sources. All data has been verified as far as possible. However Ross Jackson – Consulting Arborist can neither guarantee nor be responsible for the accuracy of information provided by others. Unless stated otherwise:

- Information contained in this report covers only the trees examined and reflects the health and structure of the trees at the time of inspection. The documented, observations, results, recommendations and conclusions given may vary after the site visit due to environmental conditions.
- The inspection was limited to visual examination from the base of the subject tree without dissection, excavation, probing or coring; and
- There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the subject trees may not arise in the future.

Ross Jackson.

Registered Consulting Arborist No. 1695

8th March 2014

Table of Contents

1. BACKGROUND and METHODODOLGY

1.1 The purpose of this Tree Report is to inform and accompany the development design for Westfield Warringah Stormwater Augmentation (Stage 1), corner Cross and Green Streets Brookvale – The Site.

1.2 The report was commissioned by Westfield Design to respond to Council's requirements to consider the development impacts on trees located within the site and along Councils streets.

1.3 This report outlines the health and condition of the subject trees, the remaining life expectancy of the trees, identifies any visible defects or other problems, describes which trees require pruning, removal, retention or represent a potential hazard and comments on the impact on these trees in relation to the works proposed. The report also provides recommended tree protection measures (Tree Management Plan) to ensure the long-term preservation of the trees to be retained where appropriate.

1.4 The Site has established trees in an existing carpark and outside the Site along Cross and Green Streets, Brookvale.

1.5 The trees were identified by ground level Visual Tree Assessment (VTA) [1] only in the data collection, taken on 3rd March 2014. No aerial (climbing) was undertaken.

1.6 All site photographs were taken by the author at the site. All photographs were taken using a digital camera (Canon 600D) with no image enhancement either within the camera or on computer.

1.7 The subject trees were located on plans supplied. The trees have been plotted and can be found on Annexure B – Tree Location Plan.

1.8 The trees were identified and their genus species and common name used. The trees were identified by the use of data collected and compared to G Burnie, S Forrester et al (1997) **Botanica** Random House, Milsons Point, NSW Australia.

1.9 DBH. The Trunk Diameter at Breast Height (1.4 metres above ground level) in millimetres was measured over bark using a metal tape which automatically converts to diameter and assumes a circular trunk cross section.

1.10 Height. Estimated overall height in metres.

1.12 Spread. Measured with a metal tape measure and shown in metres.

1.13 Safe Useful Life Expectancy (SULE)[2].
A systematic pre-development tree assessment procedure developed by Jeremy Barrell, Hampshire, England. It gives a length of time that the Arborist feels a

[1] Mattheck, Dr. Clause & Breloer, Helge (1994) – Sixth Edition (2001) **The Body Language of Trees – A Handbook for Failure Analysis** The Stationery Office, London, England
[2] Barrell, Jeremy (1996) **Pre-development Tree Assessment** Proceedings of the International Conference on Trees and Building Sites (Chicago) International Society of Arboriculture, Illinois, USA

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).

1.14 The Tree Protection Zone (TPZ) and Structural Root Zone (SRZ) have been calculated in terms of AS 4970 – 2009 Protection of trees on development site Section 3.

1.15 To prepare this report we have reviewed the following documents:

- Staging – Stage 1 Stormwater Work Zone 1 by Westfield Retail Trust project no. 11752;
- Zone 2 Stormwater Sheet Piling Plan by Westfield Retail Trust project no. 11752;
- Zone 2 Footing plan by Westfield Retail Trust project no. 11752;
- Warringah Stromwater Augmentation Culvert Stage 1 – Site Plan Westfield Retail Trust project no. D11753;
- AS 4970 – 2009 Protection of trees on development sites; &
- Warringah Council Tree Preservation Order 2006 (TPO).

2. OBSERVATIONS as seen on the days of inspection (3.03.2014):

2.1 Our tree observations can be found in Annexure A.

3. DISCUSSIONS

3.1 We have been commissioned by Westfield Design to examine the health and condition of the trees on this development site.

It is proposed to construct a new car parking area over the existing car park on Site. Included in the development will be extensive stormwater works along Cross Street then along Green Street to disperse in Condamine Street.

3.2 We have examined the trees on site and can suggest the following considerations for the design of the development:
a. The following trees will need to be removed to construct the new car parking area and stormwater channel around the perimeter of the Site: Trees 1 – 8, 12 – 26, 32, 34, 36, 37A, 44A & 46 *Tristaniopsis laurina* (Water Gum), Tree 35 *Eucalyptus nicholii* (Narrow leafed Black Peppermint), Trees 39, 40, 41, 43 *Corymbia citriodora* (Lemon – scented Gum) and Tree 45 *Quercus robusta* (English Oak). The majority of the Water Gums are growing in hostile conditions which has resulted in the average form and condition – thus supporting their removal. The group of Lemon Scented Gums are on the whole in fair condition but with upper canopy suppression. Tree 39 shows poor condition due to a suspected lightning strike. All these trees will be removed;
b. Transplant the following trees elsewhere on Site: Trees 31 *Livistona australis* (Cabbage Tree Palm) x 7. N.B. There are at least ten (10) *Phoenix roebelenii* (Dwarf Date Palm) in and under the Cabbage Tree Palms that can also be transplanted elsewhere on Site. A Transplant Method Statement shall be required for approval as part of the Construction Certificate requirements;

c. The following street trees can be retained: Trees 27, 28, 30, 33, 37, 44 & 47 *Backhousia citriodora* (Sweet Verbena Tree) & Tree 38, 42 *Tristaniopsis confertus* (Brush Box). The Brush Box trees are mature street trees and although they have been pruned for power line clearance they would be unaffected by the proposed development and thus be retained. The street plantings of Sweet Verbena Tree will be unaffected by the proposed works and can be retained.

4. CONCLUSIONS

The majority of the trees within the Site require removal in order to permit development of the carpark and to provide a stormwater channel around the perimeter of the Site.

The majority of the Water Gums are in average condition due to the hostile growing condition.

A group of Cabbage Palms with a hedge of Dwarf Date Palms are in good condition and are suitable for transplanting elsewhere on Site.

All of the street trees will be retained along Cross and Green Streets as part of the building programme. Tree protection measures will need to be installed as part of the building programme commencing with Site establishment.

All works within these tree protection zones will need to be under the supervision of an AQF Level 5 Consulting Arborist to ensure compliance with all tree protection measures.

5. RECOMMENDATIONS

In consideration of the data collected recommendations are provided for the removal or retention of trees including specific tree protection measures required to reduce the anticipated impacts from the proposed construction on those trees proposed to be retained.

The report specifically recommends:

1. Remove the following trees on site: Trees 1 – 8, 12 – 26, 32, 34, 36, 37A, 44A & 46 *Tristaniopsis laurina* (Water Gum), Tree 35 *Eucalyptus nicholii* (Narrow leafed Black Peppermint), Trees 39, 40, 41, 43 *Corymbia citriodora* (Lemon – scented Gum) and Tree 45 *Quercus robusta* (English Oak);
2. Transplant the following trees on site: Trees 31 *Livistona australis* (Cabbage Tree Palm) x 7. N.B. There are at least ten (10) *Phoenix roebelenii* (Dwarf Date Palm);
3. Retain the following street trees: Trees 27, 28, 30, 33, 37, 44 & 47 *Backhousia citriodora* (Sweet Verbena Tree) & Tree 38, 42 *Tristaniopsis confertus* (Brush Box).
4. Tree removal work shall be carried out by an experienced tree surgeon in accordance with NSW WorkCover Code of Practice for Amenity Tree Industry (1998);
5. The transplanting of Trees 31 shall be performed by a qualified and experienced transplanter who holds AQF Level 5 (Arboriculture) with a demonstrated industry experience of a minimum 5 years in transplanting;

6. That a Transplanting Method Statement be prepared by a qualified and experienced consulting arborist who holds the Diploma in Horticulture (Arboriculture), Level 5 under the Australian Qualification Framework;
7. Install the following Tree Protection Measures around the retained tree: Tree protection measures shall be a temporary fence of chain wire panels 1.8 metres in height (or equivalent), supported by steel stakes or concrete blocks as required and fastened together and supported to prevent sideways movement. Existing boundary fences or walls are to be retained shall constitute part of the tree protection fence where appropriate. A sign is to be erected on the tree protection fences of the trees to be retained that the trees are covered by Council's tree preservation orders and that "No Access" is permitted into the tree protection zone;
8. Approval for these conditions will need to be obtained from Warringah Council;
9. That a Tree Management Plan be prepared as part of the Construction Certificate by a consulting arborist who holds the Diploma in Horticulture (Arboriculture), Level 5 under the Australian Qualification Framework;
10. An AQF Level 5 Project Arborist shall be engaged to supervise the building works and certify compliance with all Tree Protection Measures; &
11. Our tree location plans can be found on Annexure B;

Ross Jackson M.A.A. & M.A.I.H.
Registered Consulting Arborist Nos. 1695
Diploma Horticulture (Arboriculture) – AQF Level 5
Certificate III in Horticulture
Certificate in Horticulture (Landscape – Honours)

Annexure A: Observations as seen on the day of inspection of trees

Tree No	Botanical Name	Age Class	Height metres	Spread metres	D.B.H. mm	Condition / comments on trees as seen on site	TPZ / SRZ Rad.m	SULE
1	*Tristaniopsis laurina* (Water Gum)	M	5	5	100, 120 (155)	A – thinning canopy density	2, 1.5	3A
2	*Tristaniopsis laurina* (Water Gum)	M	2	3	120	F. Low branch prune	2, 1.5	3A
3	*Tristaniopsis laurina* (Water Gum)	M	2.5	1	100	P	2, 1.5	4D
4	*Tristaniopsis laurina* (Water Gum)	M	5	1	100	F stunted	2, 1.5	3A
5	*Tristaniopsis laurina* (Water Gum)	M	6	4	100 x 3 (300)	F	3.6, 2	3A
6	*Tristaniopsis laurina* (Water Gum)	M	6	6	170	G low branch over path	2, 1.5	2A
7	*Tristaniopsis laurina* (Water Gum)	M	6	6	150	P – Thin canopy density & deadwood	2, 1.5	4D
8	*Tristaniopsis laurina* (Water Gum)	M	6	7	170	A - Thin canopy density & deadwood	2, 1.5	4D
9, 10 & 11	Not found on site	-						
12	*Tristaniopsis laurina* (Water Gum)	M	5	4	110, 150 (240)	F	2.8, 1.8	3A
13	*Tristaniopsis laurina* (Water Gum)	M	4	3	110	F	2, 1.5	3A
14	*Tristaniopsis laurina* (Water Gum)	M	4	3	150	F	2, 1.5	3A
15	*Tristaniopsis laurina* (Water Gum)	M	6	4	200	F	2.4, 1.7	3A
16	*Tristaniopsis laurina* (Water Gum)	M	6	4	220	F	2.6, 1.8	3A
17	*Tristaniopsis laurina* (Water Gum)	M	4	4	200	A	2.4, 1.7	3A
18	*Tristaniopsis laurina* (Water Gum)	M	5	3	120, 150 (240)	F	2.8, 1.8	3A
19	*Tristaniopsis laurina* (Water Gum)	M	5	4	180	G	2.2. 1.6	2A
20	*Tristaniopsis laurina* (Water Gum)	M	4	3	160	F	2.1. 1.6	3A
21	*Tristaniopsis laurina* (Water Gum)	M	4	3	140, 110 (230)	G	2.1,1.6	2A

Tree No	Botanical Name	Age Class	Height metres	Spread metres	D.B.H. mm	Condition / comments on trees as seen on site	TPZ / SRZ Rad.m	SULE
22	*Tristaniopsis laurina* (Water Gum)	M	4	4	190	P	2.2, 1.6	4D
23	*Tristaniopsis laurina* (Water Gum)	M	4	5	150	P	2, 1.5	4D
24	*Tristaniopsis laurina* (Water Gum)	M	3	3	100	P	2, 1.5	4D
25	*Tristaniopsis laurina* (Water Gum)	M	3	3	100	P	2, 1.5	4D
26	*Tristaniopsis laurina* (Water Gum)	M	3	2	100	P	2, 1.5	4D
27	*Backhousia citriodora* (Sweet Verbena Tree)	M	5	3	160	Street tree in G	2, 1.5	2A
28	*Backhousia citriodora* (Sweet Verbena Tree)	M	5	4	220	Street tree in G	2.6, 1.8	2A
29	Not found	-						
30	*Backhousia citriodora* (Sweet Verbena Tree)	M	5	4	140	Street tree in G	2, 1.5	2A
31	*Livistona australis* (Cabbage Tree Palm) x 7	M	8	3	240	Native palms in G – Transplantable. Also at least 10 Dwarf Date Palms below these trees – transplantable as well.	3, 2	5A
32	*Tristaniopsis laurina* (Water Gum)	M	5	4	180	A	2.2, 1.6	3A
33	*Backhousia citriodora* (Sweet Verbena Tree)	M	5	3	120	Street tree in G	2, 1.5	2A
34	*Tristaniopsis laurina* (Water Gum)	M	6	3	180	F	2.2., 1.6	3A
35	*Eucalyptus nicholii* (Narrow leafed Black Peppermint)	M	12	10	660	Native tree in G. Power line prune on N side. Slight lean to N	7.9, 2.8	2A
36	*Tristaniopsis laurina* (Water Gum)	M	6	3	140	F	2, 1.5	3A
37	*Backhousia citriodora* (Sweet Verbena Tree)	M	6	3	110	G. Street tree	2, 1.5	2A
37A	*Tristaniopsis laurina* (Water Gum)	M	5	4	100	F	2, 1.5	3A
38	*Tristaniopsis confertus* (Brush Box)	M	8	8	500	G. Power line pruning. Street tree	6, 2.5	2A
39	*Corymbia citriodora* (Lemon – scented Gum)	M	9	4	340	P. Lightning strike scar down trunk with exposed heartwood.	4.0, 2.1	4D

Tree No	Botanical Name	Age Class	Height metres	Spread metres	D.B.H. mm	Condition / comments on trees as seen on site	TPZ / SRZ Rad.m	SULE
40	*Corymbia citriodora* (Lemon – scented Gum)	M	16	8	610	G. Slight lean to street. Upper canopy suppression with tree 41	7.3, 2.7	2A
41	*Corymbia citriodora* (Lemon – scented Gum)	M	16	10	650	G. Upper canopy suppression with tree 40	7.8, 2.8	2A
42	*Tristaniopsis confertus* (Brush Box)	M	10	10	670	G. Power line pruning thru middle of canopy. Street tree	8.0, 2.8	2A
43	*Corymbia citriodora* (Lemon – scented Gum)	M	16	8	620	G. Suppressed by tree 42	7.4, 2.7	2A
44	*Backhousia citriodora* (Sweet Verbena Tree)	M	4	2	100	G – small specimen. Street tree	2, 1.5	3A
44A	*Tristaniopsis laurina* (Water Gum)	M	4	2	100	G – small specimen	2, 1.5	3A
45	*Quercus robusta* (English Oak)	M	12	14	930	Deciduous tree in G. Minor deadwood & branch breakages	11.1, 3.2	2A
46	*Tristaniopsis laurina* (Water Gum)	M	3	2	100	F	2, 1.5	3A
47	*Backhousia citriodora* (Sweet Verbena Tree)	M	3	2	100	F. Street tree	2, 1.5	3A

Terms used in Tree Survey & Report:

Age Class
(Y) – Young refers to a well-established but juvenile tree.
(SM) – Semi-mature refers to a tree at growth stages between immaturity and full size. A tree has reached First Adult Form i.e. displays adult characteristics.
(M)- Mature refers to a full size tree with some capacity for future growth.
(OM) – Over-mature refers to a tree approaching decline or already declining.

Health refers to a tree's vigour, growth rate, disease and/or insects.
Condition summarises observations about the health and structure of the tree on a scale of 1 – 5: **(G) Good, (F) Fair, (A) Average, (P) Poor, (VP) Very Poor & (D) Dead.**

Height expressed in metres refers to estimated overall height of tree.

Spread expressed in metres refers to estimated spread of crown at the drip line.

(DBH) Diameter at Breast Height expressed in millimetres refers to the trunk diameter at 1.4 metres above ground level.

(TPZ) Tree Protection Zone & Structural Root Zone (SRZ) as defined by AS 4970 – 2009 Section 3

(SULE) The various SULE categories indicate the safe useful life anticipated for an individual tree or trees assessed as a group. Factors such as the location, age,

condition and vitality of the tree are significant to the determination of this rating. Other influences such as the tree's effect on better specimens and the economics of managing the tree successfully in its location are also relevant to SULE (Barrell 1993, 1995, 2001).

NOTES ON SAFE USEFUL LIFE EXPECTANCY (SULE RATING) AS USED IN TREE DESCRIPTION TABLE

In a planning context the time a tree can expect to be usefully retained is the most important long-term consideration. Safe Useful Life Expectancy (SULE) is the life expectancy of the tree modified first by its age, health, condition, safety and location (to give safe life expectancy), then by economics, effects on better trees and sustained amenity (Barrell 1993 and 1995). Trees with short SULE may at present be making a contribution to the landscape but their value to the local amenity will decrease rapidly towards the end of this period, prior to their being removed for safety or aesthetic reasons.

SULE categories

	1 LONG SULE	2 MEDIUM SULE	3 SHORTSULE	4 REMOVALS	5 MOVED OR REPLACED
A	Long- appeared to be retainable at the time of assessment for over 40 years with an acceptable degree of risk, assuming reasonable maintenance.	Medium- appeared to be retainable at the time of assessment for 15 to 40 years with an acceptable degree of risk, assuming reasonable maintenance.	Short- appeared to be retainable at the time of assessment for 5 to 15 years with an acceptable degree of risk, assuming reasonable maintenance	Removal trees which should be removed within the next 5 years.	Moved or Replaced- Trees which can be readily moved or replaced
B	Structurally sound trees located in positions that can accommodate future growth	Trees that may only live between 15 and 40 more years	Trees that may only live between 5 and 15 more years.	Dead, dying, suppressed or declining trees through disease or inhospitable conditions	Small trees less than 5 metres (m) in height
C	Trees that could be made suitable for long-term retention by remedial tree care	Trees that may live for more than 40 years but would be removed for safety or nuisance reasons	Trees that may live for more than 15 years but would be removed for safety or nuisance reasons.	Dangerous trees through damage, structural defect, instability or recent loss of adjacent trees.	Young trees less than 15 years old but over 5m in height
D	Trees of special significance for historical, commemorative or rarity reasons that would warrant extraordinary efforts to secure their long term retention.	Trees that may live for more than 40 years but should be removed to prevent interference with more suitable individuals or to provide space for new planting.	Trees that may live for more than 15 years but should be removed to prevent interference with more suitable individuals or to provide space for new planting.	Dangerous trees through structural defects including cavities, decay, included bark, wounds or poor form.	Trees that have been regularly pruned to artificially control growth'
E		Trees that could be made suitable for retention in the medium term by remedial tree care	Trees that require substantial remedial tree care and are only suitable for retention in the short term	Damaged trees that are' clearly not safe to retain	
F				Trees that may live for more than 5 years but should be removed to prevent interference with more suitable individuals or to provide space for new planting	
G				Trees that are damaging or may cause damage to existing structures within 5 years	
H				Trees that will become dangerous after removal of other trees for the reasons given in A) to F).	

Annexure B: Tree location plan

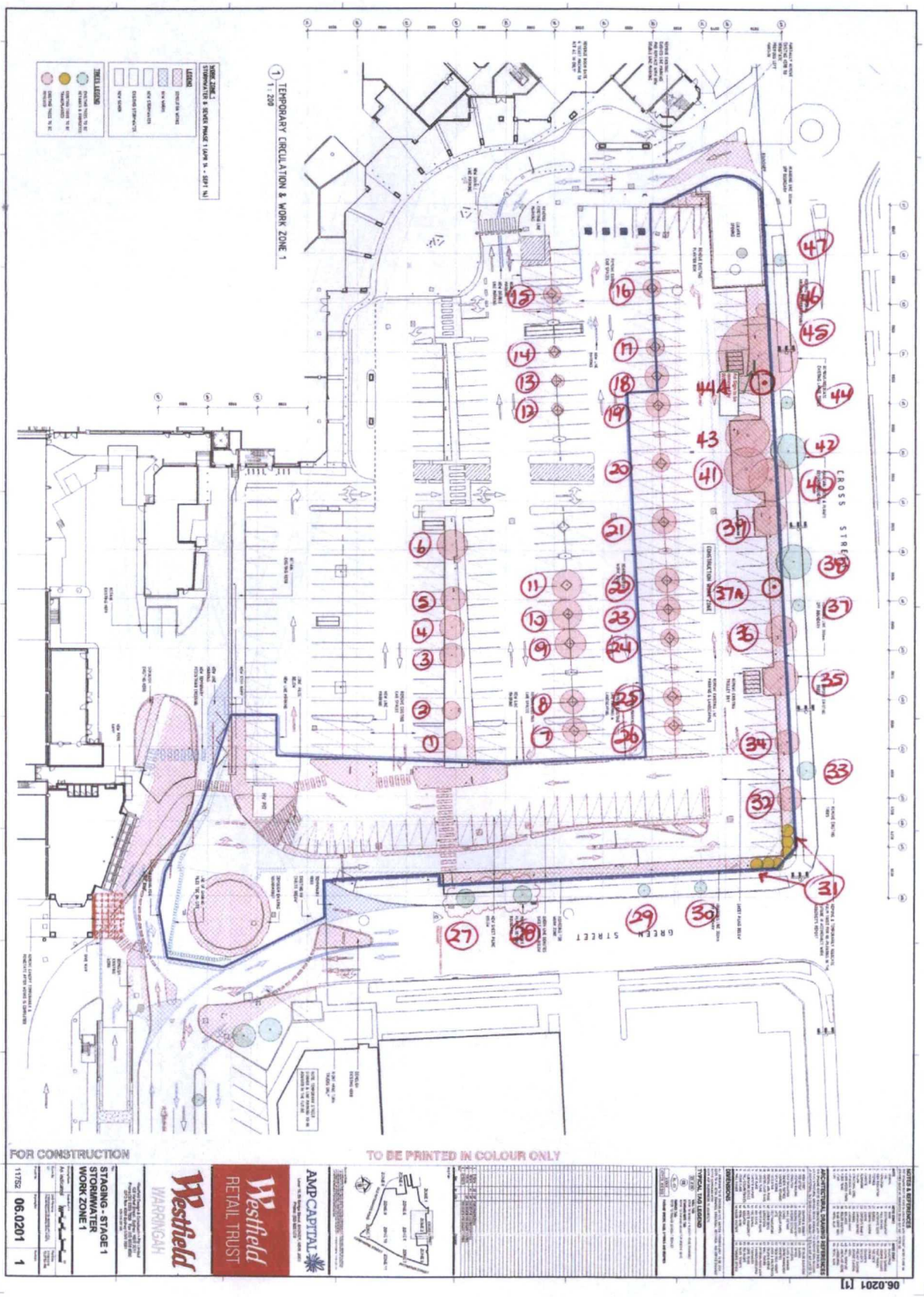

Plate 1

Typical condition of the Water Gums

Plate 2

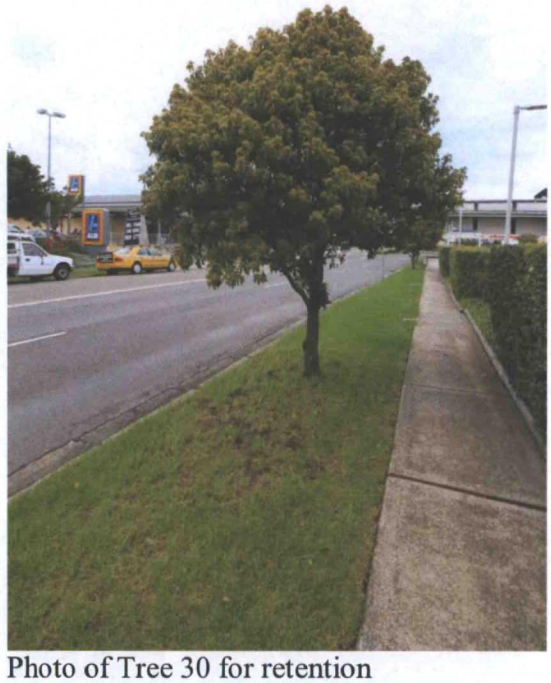

Photo of Tree 30 for retention

Plate 3

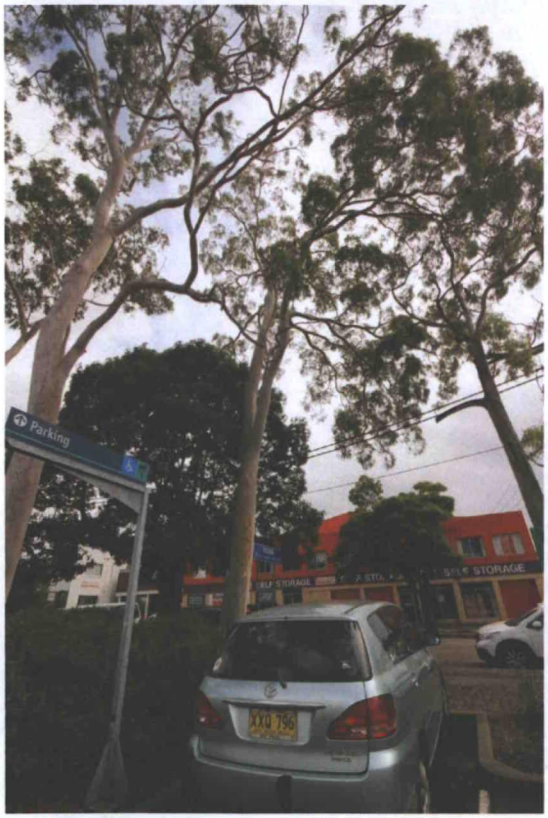

Photo of Trees 39, 41 & 42 - remove

Plate 4

Photo of Tree 42 Brush Box – retain

Plate 5

Photo of trees 31 & hedge of Dwarf Date Palms for transplanting

JACKSONS NATURE WORKS
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Palm Tree Transplanting

Methodology Statement

At

Westfield Warringah
Cnr Cross & Green Streets

For

Westfield Design

Prepared by: Ross Jackson
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Tree Transplanting Method & Management Statement for Trees 31 *Livistona australis* (Cabbage Tree Palm) x 7

1. Pre- transplanting preparations

The palms should be watered by hand or by the automated irrigation system on a daily basis for the week before the start of the relocation process.

A site meeting should be held between the supervisor of the transplanting company and the client (or their representative) to discuss the transplanting procedure and determine any issues that may compromise the process:
a. access details:
b. install temporary site fencing around the perimeter of the existing location of the trees to create a work compound, preventing public entry. Sufficient space between the fence and the trees is required to ensure sufficient access for the transplanting equipment and materials;
b. identify relocation site – initially off site for approximately 1 year. Ideally the company undertaking the palm removal will have a nursery off site where the palms can be held and under constant supervision;
c. confirms suitability of new site, including the excavation of the planting hole prior to any root pruning to determine:

1. no unexpected old below ground services (drainage pit/ pipes etc.,) are present;
2. topsoil depths are adequate;
3. constructed drainage requirements;
4. if any guying or cable support is to be required (again this will be governed by size & condition of the root ball) once the palm specimen has been relocated:

d. Assess aerial access as palm specimen if required to be moved by crane (any pruning must be addressed in terms of AS 4373 Australian Standard for the pruning of amenity trees:
e. all transplanting equipment and materials are delivered to site:
f. site inductions are attended by all personnel involved in the relocation of the trees. Pre-start equipment inspections and operations checks are undertaken: &
g. the trees are to be labelled and their northerly aspect marked for correct orientation purposes.

2. Excavation and Root balling

The root zone of the trees are to be cut out vertically using a high-pressure water laser and any services (if previously located) running through the root zone of the palm are exposed to determine the likelihood of disconnection or relocation by the client.

Bulk excavation around root zone is carried out with the use of the excavation equipment machinery, allowing access to the base of the root zone, to cut out the root plate horizontally with the water laser and thus severing the tree from the sub-soil.

The severed root zone is covered with a geo-textile fabric which is kept moist until the palm is relocated to the plant nursery for storage and management until replanting is planned.

3. Lifting & Transport

3.1 Burlaping Root Plate
The root plate (ball) shall be wrapped using a triple layer of Hessian material or equivalent flexible pervious geofabric material and tied securely using rope lacing, chicken wire or approved equivalent method to prevent soil loss prior to lifting.

3.2 Lifting
The trees shall be lifted using appropriate soft web slings placed securely and evenly around the root plate, supporting the trunk where required. During lifting operations the root plate shall be fully supported and completely contained to prevent soil loss and damage to the root plate. The trees shall **not** be lifted by wrapping slings, ropes or cables around the trunk. Ropes and cables shall not be placed or tied around the trunk. Cables and chains used in lifting shall be adequately padded with suitable material where they may contact the trunk or fronds to avoid abrasion and damage too trunk and fronds.

The tree and root plate shall be lifted using a mobile crane or similar device. The trees shall not be lifted and relocated using excavators or similar equipment.

4. Replanting

Planting Hole

The trees shall be installed in the positions indicated on the Landscape Plan drawing number da 01 6101 and to conform to the finished levels as indicated – refer Annexure A Palm planting details & B Landscape plan.

The new planting sites shall be prepared by excavating a hole slightly larger (300mm all-round clearance) and the same depth as the existing root plate. The base of the planting hole shall be shaped with a slight fall (1 in 50 grade) towards the subsoil drainage material – "Atlantis Cells".

The sides of the planting pit shall be de-glazed and scarified using hand tools or other approved method to relieve compaction and aid root penetration following establishment.

The area outside the planting pit for a radius twice that of the root plate radius shall be cultivated to a depth of 300mm to relieve compaction of the sub-soil material. Any rock or other extraneous material brought to the surface during ripping shall be removed and disposed of off the site.

A layer of imported topsoil shall be supplied and spread to an even depth of 200mm over the entire ripped area (where required) and graded to meet existing levels. The topsoil shall finish flush with the top of the root plate.

5. Drainage

Sub-surface drainage shall be placed over the stormwater drainage culverts by installing Atlantis Cells over the culverts. A 75mm layer of aggregated shall be placed

over the Atlantis Cells wrapped in filter fabrique to create a full cover over the Atlantis Cells.

6. Installation

The trees shall be lifted and relocated as described previously (Section 3) and installed in the new planting hole in the same orientation as original with the trunk in the same vertical alignment as its original position

7. Backfilling Material

Clean, friable, screened soil containing no rocks, heavy clay, vegetative matter or other extraneous material shall be supplied and installed as backfill around the root plate – Australian Native Landscapes (A.N.L.) have a 80 to 20 soil mix that is ideal. An approximate depth of 1m is proposed for the new planting area.

Organic soil mixes, compost or other material containing a high percentage of organic matter is not acceptable for this purpose.

The backfill material shall be installed to ensure soil-root contact on all sides of the root plate with no voids. No backfill material should be placed on top of the root plate or indirect contact with the trunk.

8. Mulch

Following installation of the trees in the planting pit, ripping of external areas and placement of Topsoil, the root zone shall be covered with a composted mulch material and watered thoroughly. The mulch material shall be a composted wood waste material and installed evenly to a depth of 75mm over the whole root plate and one metre beyond the planting pit. Mulch shall not be placed in direct contact with the trunk.

9. Guying

Palms that have lopsided crowns or that may be unstable in the new planting location for any reason shall be supported and prevented from overturning using temporary guy wires and soil anchors. The guy wires shall be affixed to the palm using soft padded slings or equivalent. Guy wires shall be an approved braided steel cable fitted with turnbuckles.

The proposed anchors shall consist of 1200 mm long steel star pickets 3 sided or equivalent with their ends covered with a protective yellow cap.

10. Establishment Maintenance

10.1 Application of the following once transplanted:

a. application of anti-transpirant to the canopy of the palm to reduce transpiration and stress.

b. application of fungicide treatment to the root zone to prevent any fungal activity (if deemed necessary)

c. application of soil wetting agent to the root zone of the palm to aid the water holding capacity of the soil and aid in the retention of the other transplanting chemicals applied to the soil.
d. application of rooting hormone to stimulate the initiation of new root growth.

10.1 Watering
Soil moisture should be maintained in a moderately moist (but not wet) condition for a 12 month period from Practical Completion during re-establishment.

A treatment of "Seasol" is advisable immediately after transplanting at a rate of 100ml to 9 litres of water applied over new planting area (a number of watering can full may be required to cover the new planting area). This treatment should be repeated monthly for 6 months.

10.2 Fertilising
Fertilising using a slow release to the palm, once the palm has recovered from the initial shock of the transplanting operation.

10.3 Mulching
Mulch levels around the root plate should be maintained to a minimum depth of 75mm.

10.4 Pruning
The removal of dead fronds shall be undertaken as and when required in accordance with AS 4373 – 2007 by an experienced tree surgeon who holds AQF Level 3 (Arboriculture).

10.5 Monitoring
During the first twelve months following transplanting the palms shall be inspected on a monthly basis by a qualified arborist (The Site Arborist), with a minimum qualifications in Arboriculture of Level 5 (under the Australian Qualification Framework) [AQF Level 5] to ensure the palm is receiving adequate moisture and is not suffering adverse impact from the transplanting process.

A quarterly status report shall be presented to Council to assist in monitoring this process. This report shall be provided by the Site Arborist who is to be retained for the length of the transplanting project including the maintenance period.

The trees are likely to show some browning of the lower fronds due to the transplanting processes. After a period of six months these fronds should be removed.

In the event of that the health of any of the trees deteriorates during the post construction period, a consulting arborist shall be engaged to inspect and provide advice on any remedial action to improve the health and condition of the trees. Such remedial action shall be implemented as soon as practical.

If the transplanted trees are found to be faulty, damaged, dying or dead before the 12 month maintenance period is finished the palm or tree fern shall be replaced with the same species of comparable size.

11 Limitations on the use of this report

This report is to be utilised in its entirety only. Any written or verbal submissions, report or presentation that includes statements taken from the findings, discussions, conclusions or recommendations made in this report, may only be used where the whole of the original report (or a copy) is referenced in, & directly attached to that submissions, report or presentation.

12. Assumptions

Care has been taken to obtain information from reliable resources. All data has been verified insofar as possible, Jacksons Nature Works, can neither guarantee nor be responsible for the accuracy of information provide by others.

Information contained in this report covers only the palms that was examined & reflects the condition of the palms at the time of inspection; and

The inspection was limited to visual examination of the subject trees without dissection, excavation, probing or coring. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the subject trees may not arise in the future.

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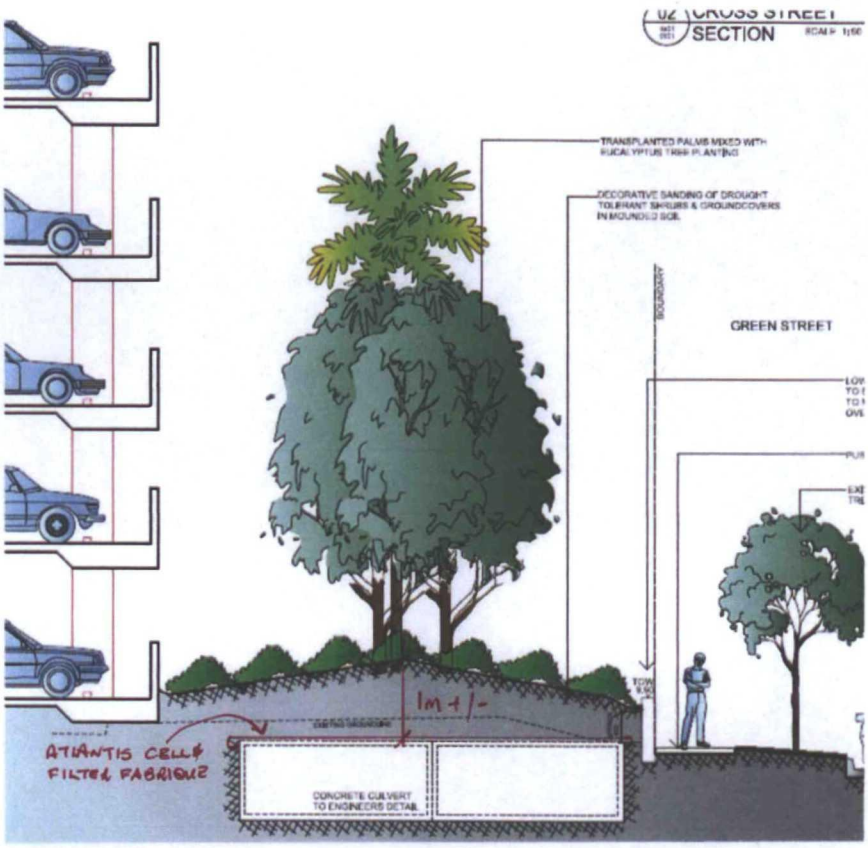
24th June 2014

Annexure A: Palm planting details



Annexure B: Landscape Plan Palm Tree Car Park