









CAIRNS PART C THE RAINFOREST CITY MASTER PLAN SELECTION

March 2013 - Cairns Regional Council
119-145 Spence Street - PO Box 359 - Cairns - QLD 4870
Ph: (07)4044 3044 F: (07)4044 3022 E: council@cairns.qld.gov.au

This document is available on the Cairns Regional Council website: www.cairns.qld.gov.au



Acknowledgements

Cairns: The Rainforest City Master Plan would not have been possible without the collaborative efforts of a number of people and organisations. Cairns Regional Council would like to thank all contributors for their involvement, passion and valuable contributions to Cairns: The Rainforest City Master Plan.

References

Queensland Streets, Complete Streets Guidelines for Urban Street Design 2011

City of Cairns Street Tree & Park Planting Guide

Mulgrave Shire Council Landscape Code Guidelines – Industrial and Commercial 1990

Trinity Inlet Visual Analysis and Design Guidelines Volumes 1 & 2 1994 Marlin Coast Landscape Master Plan Part A 1999

Cairns Style Guide 2011

An assessment of tree susceptibility and resistance to cyclones (Yasi Report) Greening Australia 2011

Native Plants for North Queensland - Yuruga Nursery 5th Edition December 1990

Across the Top Gardening with Australian Plants in the Tropics Kieth Townsend 1994

Tropical and Sub-tropical Trees - A Worldwide Encyclopaedic Guide - Margaret Barwick 2004

The Project Team includes the following Council officers:

Brett Spencer Manager Parks and Leisure

Stephen Tyter *Manager Infrastructure Management*Malcolm Robertson *Manager Inner City Facilities*

Debbie Wellington Team Leader Strategic Planning

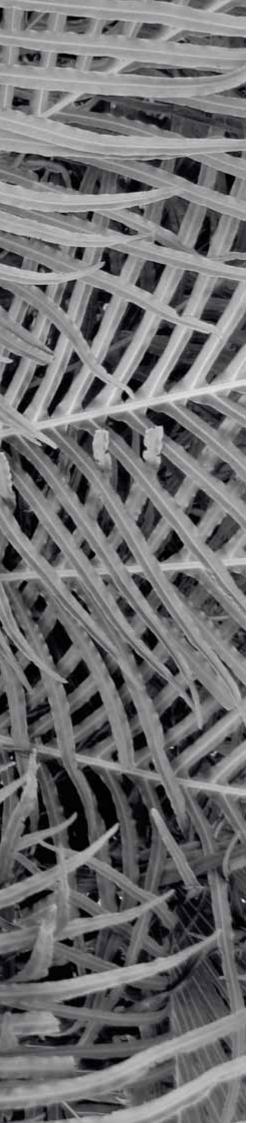
Jez Clark Senior Landscape Architect

Claire Burton Landscape Architect





1.1 1.2 1.3		10 12 16
1.5	Functional criteria	
2.1	THE RAINFOREST CITY TREE LIST. The Rainforest City Tree List. The Rainforest City Native Tree List. The Rainforest City Park Tree List. The Rainforest City Exotic Tree List.	24 26 34
	THE RAINFOREST CITY PLANT LIST	







TREE SELECTION









1.0 TREE SELECTION

1.1 The right tree for the right location Why this is important

One of our key selection objectives is to ensure the selection of "the right tree for the right location", in other words, to ensure that the selection of the species is appropriate to the local environmental conditions and the constraints of the planting location. The selection of species aims to ensure that trees make a positive contribution to environmental, amenity, aesthetic and heritage values of the area and any negative values are minimized. There is no perfect street tree and so every selection has some compromise between positive and negative values. The Master Plan tree selection is divided into three criteria;

...the right tree for the right location

- Environmental tolerances
- Functional requirements
- Aesthetic / Design Requirements

Adherence to the selection criteria should ensure the selection of the species with the most desirable and appropriate characteristics will be selected, no matter what their origin or type. In order to ensure the health and longevity of street trees planted, aesthetic and design considerations will be accommodated where optimum conditions for plant growth are available. The proven performance of the species in particular environmental conditions and functional requirements will be the prime considerations for street tree selection.





If these trees are performing well, are in scale with the street, and provide a desirable streetscape character then generally the Master Plan will follow the existing pattern. Some exceptions to this general policy of the continuation of the existing patterns will occur in the case of particular species that have:

- Performed poorly.
- Are not in scale with the street.
- Have proven to be particularly damaging to pavements, kerbs, gutters overhead or underground services.

This provides the opportunity to introduce additional tree species to our area or experiment / trial new nursery tree cultivars.

When selecting trees, consideration has been given to planting species which provide a connection between open spaces or other vegetated areas to assist in the movement of wildlife (fauna and bird life) between those areas. These species will contain some benefits to wildlife including physical benefits of protection, shelter and food source.

Please note that plantings in and around the Cairns International Airport should be carefully considered if they are within the bird and bat strike hazard zones (refer to the bird and bat strike hazard zones overlay in the Cairns Plan for full details).

Response to common issue:

Trees cause damage during cyclones

Tree failure during cyclones is a great concern; however stands of trees can often act as protection to surrounding property and in fact prevent damage.

Trees that have a history of susceptibility to high winds are not included in the Council's Preferred Street Tree List. Consistent pruning to establish well balanced crowns and the promotion of healthy deep roots will encourage trees to develop greater stability and improved resistance to high winds. Refer to Part B 2.8.1 on page 44 for more information about trees and cyclones.





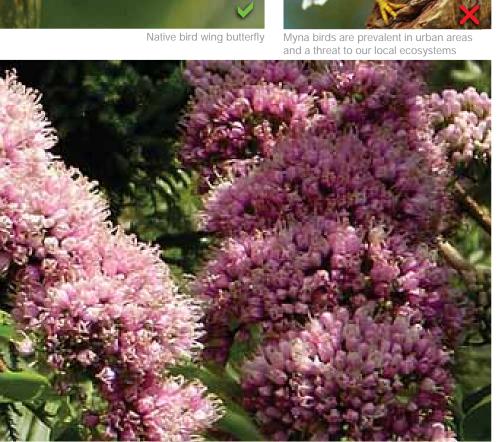


1.2 Native versus exotic plant selection

When addressing this issue of native versus exotic, a more useful division may be to view this point three ways:

- Endemic Species (Local Natives)
- Natives from distant parts of Australia
- Exotics





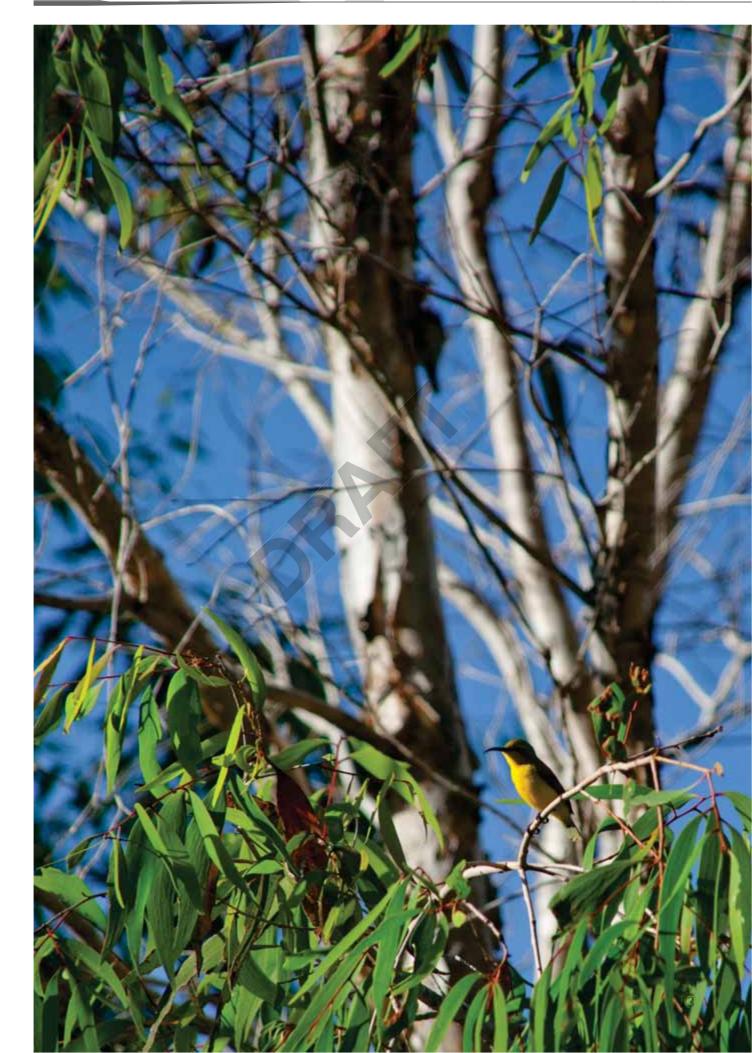
1.2.1 Endemic Species

Endemic Species (Local Natives) have the advantage of being climatically suited and live in some degree of equilibrium with pest organisms such as insects and fungi. Use of local natives;

- Promotes biodiversity
- Helps establish vegetation corridors
- Provides improved drought resistance
- Reinforces a unique sense of place
- Makes the greatest contribution to our "urban forest".

These species will often have significant links to local Aboriginal Cultural Heritage values. Endemic species are best suited to the needs of our indigenous fauna and have been proven to discourage introduced species such as the Myna Bird. During the recent Yasi cyclone it was noted that endemic species were less susceptible to damage and uprooting than nonnative species.

"Use of local natives promotes biodiversity, can establish vegetation corridors, can be drought resistant and reinforces a unique sense of place."







1.2.2 Native Species

Natives from other regions within Australia are less likely to be climatically adapted; they may enjoy freedom from local pest organisms but if they become infested are likely to succumb faster.

Many species though native to Australia are not suited to the climatic conditions present in Cairns, and may in some cases represent a threat to local biodiversity. While many of these species are indicative of the broader Australian Landscape they are not features of our local plant communities.

Regarding local or at least Far North Queensland natives and their suitability as street trees; species best adapted for inner urban areas are usually from drier rainforests, particularly littoral rainforests where most trees are long lived shade tolerant; and freshwater swamps and other areas that are poorly drained and aerated, where species from these environments are highly resistant to root rot organisms and their root systems are adapted to adverse conditions.

1.2.3 Exotic Species

Exotics may be almost completely free of pests and diseases but run the risk of being devastated if these are accidentally introduced. Some species do however have historic cultural links to early settlement and period planting themes that can still be seen in the Cairns area. Exotic flowering trees make a valuable contribution to the Tropical Character.

"...links to early settlement and period planting themes..."

When should we use endemic tree species?

- Dominant outside of urban centres (not excluded form urban centres)
- Within and in proximity to vegetation conservation areas (refer to Cairns Plan Overlays)
- For the creation/enhancement of wildlife corridors and buffer plantings to remnant vegetation and riparian corridors.
- To screen developments within the lower slopes and to create buffers to adjacent hills (refer to Design Guidelines Street Themes Groves for more information on "naturalistic" street tree planting strategies)
- To create links to the natural environment, and increase the natural biodiversity of Cairns across the built form.
- Parks are to planted with a minimum of 75% Native/Endemic species (refer to FNQROC Design Manual Part D9.13)

When should we use Exotic and Australian Native tree species?

- Within urban centres (not to the exclusion of endemic species selection)
- As features of "Special Planting"
- To reinforce local traditional and historic plantings of cultural significance
- As part of Key City Gateways

Response to common issue:

Are coconuts considered to be native to Queensland?

According to the Queensland Herbarium, Brisbane Botanic Gardens Department of Environment and Resource Management coconuts are considered to be native to Australia. While coconuts are widespread throughout the Pacific rim it is believed that on mainland Australia the species (Cocos nucifera) have been planted.

The master plan recognises the value of coconuts for the role they play in establishing the resort character of many of the region's tourist beaches and recommends the development of a Coconut Management Plan to develop a clear strategy for dealing with our coconut population.



1.3 Environmental selection criteria

The capacity of trees to establish and grow successfully depends heavily on the environmental conditions at the planting location being within the tolerance range of the species selected.

We must remember trees, unlike other street infrastructure are living organisms. They need to grow to survive and their behaviour is not always predictable or consistent. Being a living thing they:

- Will typically all need to shed leaves, bark, fruit, flowers;
- Need to, and will, respond to the natural prevailing conditions;
- Can be easily damaged and vandalised (particularly when young);
- Can be severely affected by pests and diseases that can kill or increase the stress on the trees.



Some of the environmental factors that affect tree selection are;

1.3.1 Climate

Cairns is located at latitude 16.9 degrees south and experiences a tropical wet climate. Parts of the Cairns area are subject to coastal influences depending on their proximity and orientation to the sea. It is an oasis in Tropical Australia, for the oblique orientation of the backing highlands relative to the prevailing southeasterly trade winds, result in between 2-7m of annual rainfall. The Cairns region is prone to a range of natural hazards including riverine floods, tropical cyclones and storm surge, landslides and possible tsunami.

1.3.2 Geology and Soils

Local geology is dominated by the Middle Palaeozoic Hodkinson Province metamorphic, a series of interbedded phyllite, schist, quartzite and chert which strike north-south, and the Lower Permian Mareeba granite that intrudes the metamorphic and varies mineralogy and texture throughout the region. There are two distinct fan surfaces throughout the Cairns. region: a series of fans between 5-10m above the present flood plains and lower level modern alluvial plains and floodplains that grade to sea-level. These fan surfaces are virtually ubiquitous across the lowland plains where they abut against Quaternary shoreline deposits. Near Cairns City the fans emanating from the Macalister Range are composed predominantly of clayey gravels and gravely clays (up to 15% gravel content). Further south the large Mulgrave fan, and those extending from the Bellenden Ker Range near Miriwinni have sediments derived from granites (have higher sand content). Between Cairns and Ellis Beach, the wider coastal plain is covered by coalesced fans which appear to extend below sea level.

The weathering and stratigraphical characteristics of the sea fans suggest that they were composed of two distinct generations. The fine-and clays of the stat lower sequence of fans white with yellow mottles. coloured fine-grained upper fan unit. evident from Kewarra south only the red unit is exposed. North of Cairns where the coastal plain narrows considerably the truncated fans of the Macalister range now forms

sea cliffs up to 3-4m in height. These have high gravel content (up to 30%) and their matrix sands and clays are extensively weathered and display red and orange mottles. This section of the Cairns coastal plain is dominated by the Barron delta, which is comprised of up to 90m thickness of alluvial sediments. Along the eastern margin of the Barron fan Holocene marine sands and muds with a similar stratigraphy to the southern portion of the coastal plain have accumulated. Alluvial fan and colluvial deposits dominate the western or landward margin of the coastal plain.

1.3.3 Hydrology

The Russell-Mulgrave and the Barron Rivers are the main streams draining the region. Both rise on the plateau to the west of Cairns and have carved steep sided gorges into the plateau before flowing across broad alluvial plains. The Barron River enters the Coral Sea immediately north of Cairns and the Russell-Mulgrave River turns south on the coastal plain and enters the sea near Russell Heads Areas of Cairns within the coastal strip have high salt water levels that can affect root systems.

1.3.4 Tolerance in paved areas

In some urban areas selected trees will need to tolerate planting in hard paving areas and must have the ability to tolerate low oxygen levels and compacted, highly modified soil conditions.

1.3.5 Tolerance of pests and diseases

The selected tree species should be resistant to pests and disease. A diversity of species is also important in reducing the impact of devastating diseases on specific tree species.

1.3.6 Tolerance of atmospheric pollution

The CBD environment and areas traversed by busy arterial roads are subject to photochemical pollution produced by vehicle exhaust systems. Trees selected for these areas need to able to tolerate these vehicle emissions. Deciduous trees are generally considerably more tolerant than evergreen species due to the duration over which different species retain their leaves. The longer the life of a leaf the greater likelihood that the threshold levels for pollutant damage will be exceeded.



1.4 Functional criteria

Species selected for street tree planting also need to fulfil certain functional criteria to ensure successful establishment and reduced ongoing maintenance and management issues.

1.4.1 Proven performance record

Proven performance of the species under the environmental conditions of the locality is vitally important. Trees are a long term investment and substantial amounts of money are often invested in their purchase, planting and maintenance. New species should be trialled on a smaller scale before implementing their widespread use.

1.4.2 Readily available and transplantable at advanced sizes

The selected plant species must be able to be commercially grown and available in a suitable size for street planting. Generally the tree nursery stock used will be super advanced stock to provide high initial impact and adequate resistance to casual or intentional vandalism.

1.4.3 Acceptable leaf and fruit fall characteristics The selected species must have an acceptable level of nuisance created by the shedding of leaves and fruit for a street environment. Those with large or heavy seed pods, excessive leaf drop, or fleshy fruit or flowers which may lead to slip hazards will typically be avoided.

1.4.4 Low risk of becoming an environmental weed Some species are known to be, or have the potential to be serious environmental weeds due to their ability to self propagate and invade bushland areas.

1.4.5 Not prone to major limb shear

Limb loss occurs on an occasional basis for most trees due to wind induced mechanical breakage. Trees that are renowned for having brittle branches and regular branch drop will be avoided for use as street trees.

1.4.6 Long lived

Many of the costs associated with the management of trees in the urban environment are associated with the early establishment and then the over maturity phase. Using long lived species that require replacement as infrequently as possible will help minimise tree management costs.

1.4.7 Capacity to lift pavements and kerbing Although no guarantees can be given that any particular street tree species will not interact with kerbs and pavements, species that are renowned for vigorous root systems causing pavement uplift will be avoided. The City will also investigate the use of alternative footpath materials and design to minimise tree root and bitumen interaction.

1.4.8 Low maintenance

All trees selected will require minimal maintenance subsequent to establishment.

1.5 Aesthetic/Design criteria

Our City is a constructed cultural and urban landscape consisting of streets, buildings and parks. Trees play an important role in enriching the cultural experience of a place and so the aesthetic characteristics of the trees need to be an important selection consideration.

1.5.1 Relationship with distinctive landscape characters

The selection of species may be made to reinforce historical, cultural or natural associations from our past, particularly Victorian era landscape planting.

1.5.2 Ultimate size tree canopies

Very large trees in confined spaces often result in unacceptably high management costs. Conversely small growing trees in broad streets rarely contribute significantly to visual quality or canopy coverage.

Trees selected will be in scale with the streetscape and if allowed, we will utilise the largest growing species possible for the area.

Species should still be selected such that the ultimate mature size of the tree is in scale with the street giving consideration of the site constraints, such as nature strip widths, overhead powerlines, building alignments and vehicle clearances. The optimum range is not so small that it does not make a significant contribution to the amenity of the street, and not so large as to dominate and cause significant problems. In some instances the constraints imposed by the street environment will limit the optimum size of street trees or even restrict tree planting altogether. This is the case with the majority of narrow laneways and footpaths throughout the area.

1.5.3 Historic / cultural associations

The selection of species may have natural, historical or cultural associations within the particular street or locality. New plantings should consider the historical context of the locality.

1.5.4 Form of tree canopies

Selected species should have an appropriate and predictable form, usually with an upright trunk and stable branch structure. Street trees need to have a form that allows traffic and pedestrian movements around and under the tree. In the CBD desirable tree forms include trees with a single straight main trunk supporting a domed crown, or columnar form.

1.5.5 Deciduous versus evergreen

The street tree list includes both evergreen and deciduous trees. Evergreen species provide year round screening, greenery and shelter from winds. Deciduous trees provide stimulating seasonal events whilst maximising winter light.

In residential areas deciduous trees are useful to maximise summer shading and winter light particularly for buildings located on the southern side of a street.



1.6 Other Factors

1.6.1 Overhead Power Lines

Most significant of all the factors that limit the benefits trees can contribute to a streetscape is the conflict between overhead power cables and tree canopies.

A solution to this problem could be to select smaller tree species. This could be viable for narrow streets, however with wide streets these small trees are inevitably out of scale with the streetscape and present a poor environmental, social and aesthetic outcome.

The City has been co-ordinating with Ausgrid in the roll out of Aerial Bundled Conductors (ABC). These consist of a number of insulated wires bundled into a single cable which eliminates the need for the wide stringing assemblies that are the greatest problem from a street tree perspective. ABC allows for reduced line clearance codes to be employed resulting in less impact on established tree canopies.

The City will review existing tree performance and the nominated species within this plan, following ABC installation, in order to maximise the benefits received from ABC.

Underground power cables are also an option particularly for new urban developments such as at Green Square. In established areas, costs at this stage could be prohibitive, however this high cost may in fact be a practical option when compared with the projected cost of repeated pruning, the risk that this work involves to operators, the negative impact on trees and loss of public amenity.

1.6.2 Underground services and structures

High pressure gas mains and electricity easements sometimes prohibit establishment of trees due to the depth of the service and potential liabilities if the service is damaged. Similarly underground structures, wall footings and the like may also limit the ability of a tree to be planted and successfully grow. Each planting site will be assessed on its merits to determine the feasibility of establishing trees in relation to underground services and structures.

1.6.3 Narrow footpaths

An essential factor in species selection is the width of the footway or verge proposed for street tree

planting. Trees planted in footways less than 1300mm wide (from building line to the back of the kerb) force pedestrians, particularly those with strollers, to walk on the road. As it is far safer to encourage pedestrians to stay on the footway, trees will not be planted in footways less than 1300mm in width.

In streets with footpaths less than 1300mm, that already support tree planting, in-road or shared zone options will be explored for new trees

Where site constraints limit the optimum size of street plantings, consideration may be given to mechanisms which minimise or remove the impact of these constraints. These could include for example, replacing overhead powerlines with Aerial Bundle Conductors, planting trees within the median or road carriageway (where footpaths are narrow and streets are sufficiently wide) and increasing the root zone soil volume by use of structural soils or similar technologies.

1.6.4 Devastation from a serious pest and disease outbreak

At the time of drafting this 2011 Master Plan, several major pest and disease threats hang over the City's tree population. These are typically introduced pests and diseases that can potentially have devastating impacts on certain species of trees.

Myrtle Rust - myrtle rust is a serious fungal disease that affects many plants in the Myrtaceae family which includes Paperbarks, Lily Pillies, Bottlebrush and Tea Trees. Myrtle rust cannot be eradicated.

Overseas precedents show that widespread infestations of harmful pests and diseases can have devastating consequences on parts of our urban tree populations. For further information visit the Queensland Government Primary Fisheries and Industries (DPI) webb site www.dpi.gld.gov.au

1.6.5 No Street tree is perfect

There is no such thing as the street tree that will fulfil perfectly all aspects of our selection criteria. Trees are living entities that can present a variety of forms and habit even within the one species type and within the one street.



It must be remembered that we are planting trees in an artificial, constructed environment that is far removed from their natural habitat. In this situation there are bound to be some negative aspects associated with trees in an urban environment, however it is generally considered that the benefits trees contribute to our environment far outweigh many of the more negative aspects.

1.6.6 Frequent negatives raised about street trees include the following.

Allergies

Concern is sometimes raised that particular tree species cause allergies/ irritation and respiratory problems. It is important to note there is a difference between an allergic reaction to an irritation.

All flowering plants including grasses produce pollen. Generally species that rely on wind pollination create a greater pollen load to ensure continuation of the species. Pollen in the air can contribute to hay fever, eye allergies and other respiratory problems.

Grass species are by far the most prevalent pollen producers and have a long pollen season. Grasses rely on wind to disperse their microscopic pollens, which are produced in vast quantities. In Sydney the grass pollen season goes from September into January or February depending on the weather.

Plane Trees are often cited as the main culprit for causing allergies or irritations however it is difficult to isolate its contribution to urban pollen levels when there are many different species including grasses producing pollen at the same time.

Although Plane trees are pollen producers, these species have a limited season of pollen production of a few weeks only in Spring compared with longer season for grass species. The young leaves of Plane Trees do have fine pointed hairs which are gradually lost as the leaves mature. Similarly the round fruits tend to drop and shatter in autumn. The seeds have some hairs associated with them which may cause allergic reactions with some people although there is no mention of this being a problem in the texts reviewed on this issue.

Leaf and fruit droppings

All trees, including evergreens, drop leaves. Strategies to reduce the impact of leaf litter in our streets will be the coordination of our street sweeping resources to target problem areas. Species with fleshy fruits or leaves that become slippery on decomposition will be avoided for selection.

Damage to pavements

Many old established trees in our area can cause footpath uplift and cracking. These trees generally are the vigorous and large growing species.

In adhering to the principle of the 'right tree for the right location' future tree selection will be mindful of the potential of various tree species to cause pavement damage.

Also an important consideration is the site preparation and establishment techniques used for tree planting. The use of nature strips, median planting, and inroad blisters where possible, maximising the size of the planting 'cut outs' in pavements and the use of flexible pavements will help minimise future instances of pavement damage and associated risk



Example of Myrtle rust



THE RAINFOREST CITY TREE LIST



management issues.

2.0 THE RAINFOREST CITY

TREE LIST

2.1 The Rainforest City Tree List

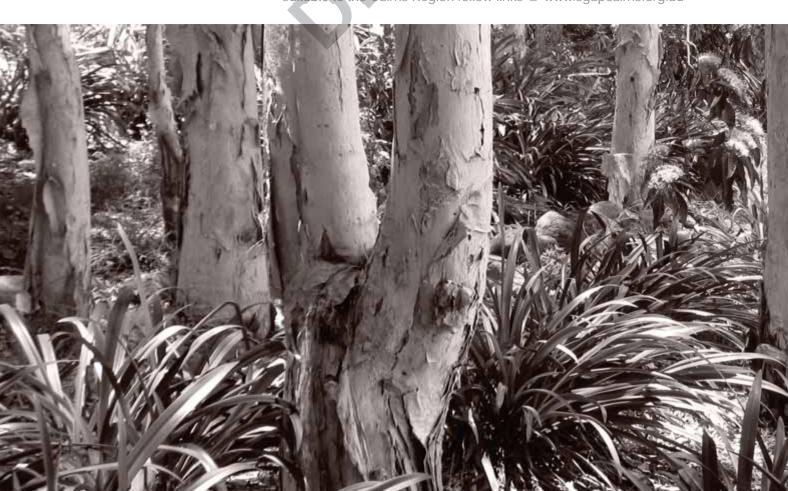
The rainforest city tree list responds to the council's planting themes and provides a list of trees suitable for the following uses;

- Large shade trees suitable for formal Avenue Planting
- A matrix of trees suitable for our "urban rainforest" (matrix defined by geographical location);
 - » Inland
 - » Coastal

Trees have been selected because they;

- Contribute to the overall biodiversity of the region's urban rainforest
- Are representative of the region's unique vegetation communities
- Can be propagated and grown to an appropriate size for street use
- Represent a low risk of becoming an environmental weed
- Are not prone to cyclone damage
- · Have acceptable leaf and fruit fall characteristics
- Are not known to have toxic seeds, fruit, sap or spines.

Endemic and native tree species feature heavily in the list and reflect our corporate vision for the rainforest city. For more details on species suitable to the Cairns Region follow links @ www.sgapcairns.org.au





What are the preferred characteristics of our street trees? Street trees are to:

- Have a strong, straight central leader with no lateral branches greater than two thirds the calliper of the main leader
- Have branches equally spaced around the central leader. Each branch having its own space
- Have a uniformly shaped canopy when viewed from all sides, free of large voids
- · Have trunks that are free from all cuts and scratches.
- Not more than 40% of the height is to be clear of branches unless otherwise specified by the landscape architect or arborist
- Have tree branches with good spacing and wide angles from the main trunk with no included bark
- Have proper pruning cuts that are not flush cuts but pruned to the collar
- Have been root-pruned and irrigated during the production for a better root system
- Have root balls in transplanted trees that are of an appropriate size (see below) firm with no loose movement between the trunk and the root ball when the trunk is rotated
- Have container roots which fill the entire container without having any root greater than 1/5 the tree calliper and no roots in the upper 75mm of media encircling more than 1/3 of the root ball. Reject any container grown trees with large roots which encircle more than 1/3 of the root ball, especially in the upper 50-100mm of the root ball.
- Plant 40-80mm calliper trees (unless an instant effect is required) as smaller trees will establish quicker in normal conditions.
- Street trees must be at least 2 metres high (installed) and have a clear trunk of at least 1.4 metres from the top of the adjoining finished level to the lowest branch
- Planting should not obstruct sightlines. A maximum height of 750mm is recommended for all shrubs and plantings in areas where visibility across the street or footpath is required.





2.2 The Rainforest City Native Tree List2.2.1 List of suitable native trees for use in the Rainforest City

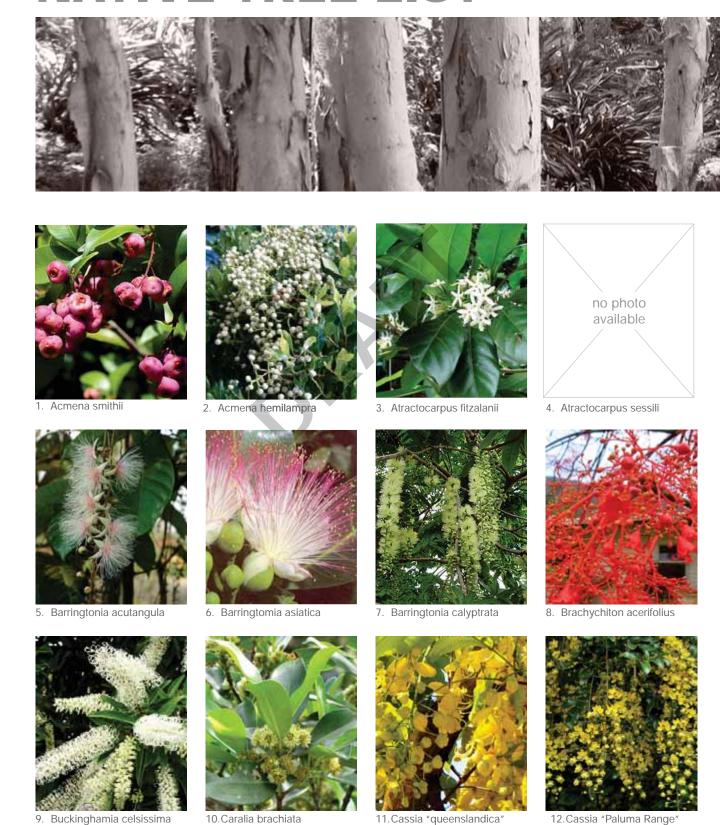
The following list of suitable native trees is intended for Avenue Planting and Grove Planting. Trees can be selected to form a matrix of species to maximise the benefits of the "urban forest" and increase local biodiversity (refer to Part A - Introduction for further details of the "urban forest", and Part B - Design Guidelines 2.0 Design Elements for details on Avenue and Grove Planting).



	Native Tree List Botanical Name					Q.	STAL	AN	SHOULDER	Щ	POWER LINE	
	Common Name	TYPE	SIZE	FORM	SALT	INLAND	COASTAL	MEDIAN	SHOL	VERGE	POWI	PARK
	Acmena smithii	Ne	M	E	L	Х			Х	Х		Х
	Acmena hemilampra Blush satinash	Ne	M	E	M	Х	Х	Х	Х	Х		Х
2.	Atractocarpus fitzalanii Brown Gardenia	Ne	S	Е	L	Х			Х	Х	Х	Х
3.	Atractocarpus sessilis Native gardenia	Ne	S	Е	Н	Х	Х		Х	Х		Х
4.	Barringtonia acutangula Freshwater mangrove	Ne	M	D	Н		Х		Х	Х		Х
5.	Barringtonia asiatica Beach Barringtonia	Ne	M-L	D	Н		Х	Х	Х			Х
6.	Barringtonia calyptrata Cassowary Pine	Ne	M-L	D	Н	Х	Х	Х	Х			Х
7.	Brachychiton acerifolius Flame Tree	Ne	M	D	L	Х	Х	Х	Х	Х		Х
8.	Buckinghamia celsissima Ivory Curl	Ne	M	Е	L	Х	Х	Х	Х	Х		Х
9.	Carallia brachiata Corkwood	Ne	S	Е	Н	Х	Х		Х	Х		
10.	Cassia "queenslandica" Golden Shower	Ne	M	D	M	Х	Х	Х	Х			Х
11.	Cassia sp "Paluma Range" Paluma Shower of Gold	N	S-M	D	L	Х		Х	Х			Х

ТҮРЕ	SIZE	FORM	SALT-Tolerance to salt exposure	Best suited to the following environmental conditions	POWER LINE
N Native to Australia E Exotic (from outside Australia) e Endemic to Cairns area t Traditional/Historical use in Cairns	S Small M Medium L Large	E Evergreen D Deciduous	H High tolerance M Medium tolerance L Low tolerance	Inland Coatsal	Suitable for under power lines (includes species which can be readily pruned)

NATIVE TREE LIST





	Native Tree List								쏦		E E	
	Botanical Name Common Name	TYPE	SIZE	FORM	SALT	INLAND	COASTAL	MEDIAN	SHOULDER	VERGE	POWER LINE	PARK
12.	Chionanthus ramiflorus Native Olive	Ne	S	Е	L	Х			Х	Х		
13.	Corymbia ptychocarpa Swamp Bloodwood	N	M	Е	Н		Х	Х	Х			Х
14.	Cryptocarya triplinervis Brown laurel	Ne	S	Е	L	Х				Х	Х	Х
15.	Cupaniopsis anacardioides Tuckeroo	Ne	S-M	E	Н	Х	Х	Х	Х	Х		Х
16.	Darlingia darlingiana Brown Siky Oak	Ne	M-L	E	L	Х		Х	Х			Х
17.	Deplanchea tetraphylla Golden Bouquet	Ne	М	E	Н		Х	Х	Х	Х		Х
18.	Dillenia alata Red Beach	Ne	S-M	E	Н		Х		Х			Х
19.	Diploglottis smithii Smith's tamarind	Ne	S-M	Е	Н		Х		Х	Х		Х
20.	Eucalyptus phoenicea Scarlet Gum	N	M	Е	M	Х	Х		Х	Х		Х
21.	Eugenia reinwardtiana Beach Cherry	Ne	M-L	Е	M		Х	Х	Х			Х
22.	Ficus virgata	Ne	L	Е	M		Х		Х			Х
23.	Flindersia brayleyana Queensland Maple	Ne	L	Е	M	Х	Х	Х	Х	Х		Х
24.	Flindersia ifflaiana Cairns Hickory	Ne	M-L	Е	L	Х	Х	Х	Х	Х		Х
25.	Grevillea baileyana Slky Oak	Ne	M-L	Е	L	Х		Х	Х	Х		Х
26.	Gymnostoma australianum Daintree Pine	Ne	S-M	Е	Н	Х	Х	Х	Х			Х
27.	Hibiscus tiliaceus Cottonwood	Ne	S-M	D	Н		Х		Х	Х		Х

TIFL
N Native to Australia
E Exotic (from outside Australia)
e Endemic to Cairns area
t Traditional/Historical use in Cairns

Si	ZE
	Small
M	Mediun
L	Large

E Evergreen D Deciduous

H High tolerance M Medium tolerance L Low tolerance

SALT-Tolerance to salt exposure

Best suited to the following environmental conditions

H. High tolerance Inland

POWER LINE

Suitable for under power lines (includes species which can be readily pruned)

NATIVE TREE LIST









22. Eugenia reinwardtiana



23. Ficus virgata



no photo available

24. Flindersia brayleana



25. Flindersia ifflaiana



26. Grevillea baileyana



27. Gymnostoma australianum



28. Hibiscus tiliaceum



	Native Tree List Botanical Name Common Name	ТҮРЕ	SIZE	FORM	SALT	INLAND	COASTAL	MEDIAN	SHOULDER	VERGE	POWER LINE	PARK
28.	Intsia bijuga Kwila	Ne	M	Е	Н		Х	Х	Х			Х
29.	Leptospermum "Cardwell"	N	S-M	Е		Х	Х	Х	Х		Х	Х
30.	Leptospermum "Pink Cascade"	N	S-M			Х	Х	Х	Х		Х	Х
31.	Leptospermum madidum TeeTree	N	S-M	E	M		Х	Х	Х		Х	Х
32.	Maniltoa lenticillata Cascading Bean	N	M	E	L	Х	Х	Х	Χ	Х		Х
33.	Melaleuca viminalis (formerly Callistemon)	Ne	s	E	M	Х	Х	Х	Х	Х	Х	Х
34.	Melaleuca viridiflora "Bergundy" Red Melaleuca	N	S	E	M	Х	Х	Х	Х	Х	Х	Х
35.	Melicope rubra Little Evodia	Ne	S	Е	L	Х				Х	Х	Х
	Mimusops elengi Mimusops	Ne	L	Е	Н		Х	Х	Χ			Х
36.	Phyllanthus cuscutiflorus	Ne	S	Е	L	Х			Х	Х	Х	Х
37.	Pleiogynium timorense Burdekin Plum	Ne	M	Е	L	Х	Х	Х	Х	Х		Х
38.	Scolopia braunii Brown Birch	Ne	S	Е	L	Х		Х		Х		Х
39.	Stenocarpus sinuatus Fire Wheel Tree	Ne	M-L	Е	L	Х	Х	х	Х	Х		Х
40.	Syzygium alliligneum Onionwood	Ne	M-L	Е	L	х	Х	х	Х	Х		Х
41.	Syzygium angophoroides Yarrabah Satinash	Ne	M	Е	L	Х	Х	Х	Х	Х		Х
42.	Syzygium australe Scrub Cherry	Ne	S	Е	L	Χ	Χ			Х	Х	Х

ТҮРЕ	SIZE	FORM	SALT-Tolerance to salt exposure	Best suited to the following environmental conditions	POWER LINE
N Native to Australia E Exotic (from outside Australia) e Endemic to Cairns area t Traditional/Historical use in Cairns	S Small M Medium L Large	E Evergreen D Deciduous	H High tolerance M Medium tolerance L Low tolerance	Inland Coatsal	Suitable for under power lines (includes species which can be readily pruned)

NATIVE TREE LIST

41. Stenocarpus sinuatus

42. Syzygium alliligneum



44. Syzygium australe

43. Syzygium angorophoroides

THE RAINFOREST CITY

	Native Tree List Botanical Name Common Name	ТУРЕ	SIZE	FORM	SALT	INLAND	COASTAL	MEDIAN	SHOULDER	VERGE	POWER LINE	PARK
43.	Syzygium forte ssp.Forte White Apple	N	M	Е	Н		Х	Х	Х	Х		Х
44.	Syzygium hemilampra Blush Satinash	Ne	M	Е	M	Х	Х		Х	Х		Х
45.	Syzygium mallacense Malay Apple	Ne	S-M	Е	L	Х	Х		Х	Х		Х
	Terminalia muelleri	Ne	S-M	E	Н		Х		Х	Х		Х
46.	Toechima pterocarpum Orange Tamarind	Ne	S	E	М	Х	Х		Х	Х		Х
47.	Xanthostemon chrysanthus Golden Penda (Cairns Floral Emblem)	Ne	M	Е	L	Х	Х	Х	Х	Х		Х

N Native to Australia
E Exotic (from outside Australia)
e Endemic to Cairns area
t Traditional/Historical use in Cairns

S Small M Medium L Large E Evergreen D Deciduous

H High tolerance M Medium tolerance L Low tolerance environmer

Inland
Coatsal

Suitable for under power lines (includes species which can be readily pruned)

POWER LINE

NATIVE TREE LIST







46. Syzygium mallacense



47. Terminalia muelleri



48. Toechima pterocarpum



49. Xanthostemon chrysanthus (Cairns Floral Emblem)

THE RAINFOREST CITY PARK

2.3 The Rainforest City Park Tree List

2.3.1 List of suitable native trees suitable for parks and open spaces

The following list of native trees is intended for use in our parks and open space areas - note tree from the rainforest city list are alos suitable for use within our parks and open space areas. Exotic trees are only to be used as limited feature planting and can make up only 25% of a parks tree population.

	Native Trees Suitable for Parks and Open Spaces Only Botanical Name Common Name	ТУРЕ	FORM	ВОССУ	INLAND	COASTAL
1.	Agathis robusta Kauri Pine	Ne	E		Χ	
2.	Alstonia scholaris Devil Tree	Ne	Е		X	
3.	Bombax ceiba Kapok Tree	Ne	D		X	Χ
4.	Calophyllum inophyllum Beauty leaf	Ne	Е			Х
5.	Casuarina cunninghamiana She Oak	Ne	Е	X		X
6.	Corymbia tessellaris Moreton bay Ash	Ne	Е		X	X
7.	Corymbia torelliana Cadaghi	Ne	Е		x	Х
8.	Eucalyptus pellita Red Mahogony	Ne	E		X	Χ
9.	Ficus drupacea Hairy Fig	Ne	Е	X		X

	Native Trees Suitable for Parks and Open Spaces Only Botanical Name Common Name	ТҮРЕ	FORM	BOGGY	INLAND	COASTAL
10.	Ficus virens Banyan	Ne	E		X	X
11.	Flindersia brayleyana Queensland Maple	Ne	Е		Х	
12.	Melaleuca leucadendra Weeping Paperbark	Ne	Е	Χ		Χ
13.	Melicope elleryana Corkwood	Ne	E	Х	Х	
14.	Nauclea orientalis Leichhardt Tree	Ne	D	X		X
15.	Schefflera actinophylla Umbrella Tree	Ne	Е	Х	Х	
16.	Syzygium bamagense Bamaga Satinash	Ne	E		X	Χ
17.	Terminalia catappa Beach Almond	Ne	D			Χ
18.	Terminalia sericocarpa	Ne	E			Х



1. Agathis robusta



2. Alstoina scholaris



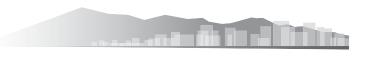
3. Bombax ceiba



4. Calophyllum inophyllum

TREE LIST





THE RAINFOREST CITY

2.4 The Rainforest City Exotic Tree List

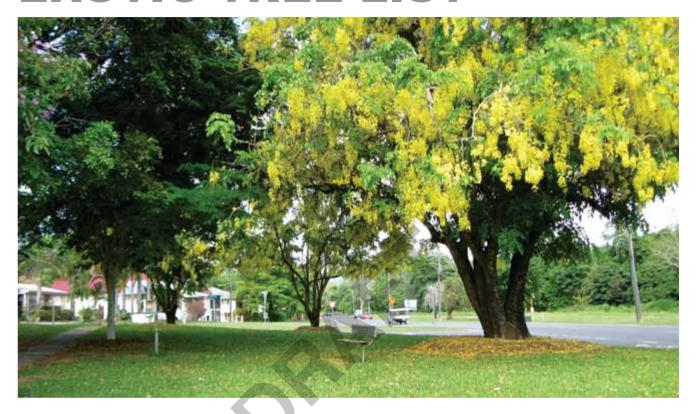
2.4.1 List of suitable exotic trees for use in the Rainforest City

The following list of suitable exotic trees is intended to supplement the list of native trees set out in the previous pages. Trees in this list are intended as feature planting for special areas and to reinforce or replace significant existing stands of historic exotic tree planting.

	Exotic Tree List										ш	
	Botanical Name Common Name	TYPE	SIZE	FORM	SALT	INLAND	COASTAL	MEDIAN	VERGE	FООТРАТН	POWER LINE	PARK
1.	Bauhinia x blakeana Hong Kong Orchid Tree	Е	S-M	D	M	Х	Х	Х	Х	Х		X
2.	Brachychiton velutinosus Lace Tree (grafted)	N	S-M	D	L	Х	Х	Х	Х	Х		Х
3.	Caesalpinia ferrea Leopard Tree	E	L	D	M-L	Х	Х	Х	Х	Х		Х
4.	Cassia "Rainbow Shower"	E	S-M	D	M	Х	Х	Х	Х	Х		Х
5.	Cassia fistula Shower of Gold	Eŧ	M-L	D	M	Х	Х	Х	Х			Х
6.	Cassia javanica Pink Cassia	Et	L	D	M	Х	Х	Х				Х
7.	Colville's Glory	Е	L	D	M		Х	Х	Х	Х		Х

ТҮРЕ	SIZE	FORM	SALT-Tolerance to salt exposure	Best suited to the following environmental conditions	POWER LINE
N Native to Australia E Exotic (from outside Australia) e Endemic to Cairns area t Traditional/Historical use in Cairns	S Small M Medium L Large	E Evergreen D Deciduous	H High tolerance M Medium tolerance L Low tolerance	Inland Coatsal	Suitable for under power lines (includes species which can be readily pruned)

EXOTIC TREE LIST





Bauhina x balakeana



2. Brachychiton velutinosus



3. Caesalpinia ferrea



4. Cassia "Rainbow Shower"



5. Cassia fistula



6. Cassia javanica



7. Colvillea racemosa



	Exotic Tree List										Щ	
	Botanical Name Common Name	ТУРЕ	SIZE	FORM	SALT	INLAND	COASTAL	MEDIAN	VERGE	FOOTPATH	POWER LINE	PARK
	Delonix regia Poinciana	Et	L	D	Н	Х	Х	Х	Х			Х
8.	Gustavia superba Membrillo	E	S	Е	L	Х			Χ	Χ		Х
9.	Lagerstroemia floribunda Late Crepe Myrtle	E	M	D	L	Х	Х	Х	Х	Х		Х
10.	Lagerstroemia indica Crepe Myrtle	Et	M	D	L	Х	Х	Х	Х	Х	Х	Х
11.	Lagerstroemia speciosa Pride of India	E	M	D	L	Х	Х	Х	Х	Х		Х
12.	Lophanthera lactescens Golden Chain Tree	Et	M	E	L	Х		Х	Х	Х		Х
13.	Peltophorum dubium Brasiletto	E	L	D	M-H	Х	Х	Х	Х	Х		Х
14.	Pterocarpus indicus Indian Padauk	Et	L	Е	L	Х	Х	Х	Х			Х
15.	Tabebuia aurea Silver trumpet Tree	Et	S-M	D	Н		Х	Х	Х	Х		Х
16.	Tabebuia chrysantha Golden Tabebeuia	Et	M	D	Н	Х	Х	Х	Х	Х		Х
17.	Tabebuia pallida Evergreen Trumpet Tree	Et	M-L	Е	M	Х	Х	Х	Х	Х		Х

	H High tolerance M Medium tolerance L Low tolerance	Coatsal	Suitable for under power lines (includes species which can be readily

EXOTIC TREE LIST









THE RAINFOREST CITY



PLANT LIST

3.0THE RAINFOREST CITY PLANT LIST

3.1 Why this is important

The preferred plant list responds to the council's planting themes and provides a list of plants suitable for the following uses;

- · Gateways and Entry Statements
- Feature Planting
- WSUD
- · General Planting for commercial and residential developments

Plants have been selected because they;

- Can be readily propagated
- Are adapted to the particular climatic conditions of the Cairns Region
- Are endemic to the Cairns Region and are representative of the region's natural vegetation communities
- Are 'iconic' tropical species which contribute to the "resort" feel of the Cairns Region

General Requirements

- Any planting proposed for on-street tree guards, traffic islands, medians, in-ground footpath planters and street tree planting, are subject to Council's approval.
- Generally, shrubs growing to a mature height exceeding 600mm should not be used in medians and traffic islands, etc. where they will interfere with vehicular sight lines.
- No plants are to be on the current register of 'declared pest plants'; for full listings follow the links at www.dpi.qld.gov.au and refer to Council's Local Law no:3 Community and Environmental management 2011.

The following lists are intended as a guide only to current plant selection and are not intended as a list of all available species. The plants listed represent those species most readily available within the Cairns Region. For more details on species suitable to the Cairns Region follow links at www.sgapcairns.org.au

For further information on invasive plants and their native alternatives visit www.growmeinstead.com.au

THE RAINFOREST CITY

3.1.1 List of suitable native plants for use in The Rainforest City

Acalypha lyonsii 1-3m

Acrostichum aureum 1-3m

Actephila sp. (Rocky River)

Adiantum atroviride Maidenhair Fern

Adiantum hispidulum Maidenhair Fern

Alocasia brisbanensis

Alpinia arctiflora Native Ginger

Alpinia caerulea Common Ginger

Alpinia hylandii Native Ginger

Alpinia modesta

Argophyllum lejourdanii

Asplenium nidus Bird.s Nest Fern 1m

Asteromyrtus angustifolia 3-5m

Baeckea virgata

Baeckea virgata dwarf

Banksia spinulosa

Blechnum indicum

Blechnum orientale

Callipteris prolifera

Cordyline cannifolia Native Cordyline

Cordyline petiolaris

Cordyline stricta

Crinum pendunculatum Swamp Lily

Dianella caerulea

Dietes ssp.

Dracaena in variety

Eugenia reinwardtiana

Gahnia aspera

Gahnia sieberiana

Gardenia psidioides "Glennie River"

Gardenia ovularis Native Gardenia 4-8m

Gardenia rupicola Native Gardenia 1-2m

Gardenia scabrella Native Gardenia

Graptophyllum excelsum

Graptopyllum spinigerum

Grevillea superba

Hibbertia banksii

Hibbertia scandens Snake vine

Hibiscus tiliaceus

Hoya australis Native Hoya Vine

Hoya pottsii Native Hoya

Hymenosporum flavum

Ichnocarpus frutescens

Ipomoeo "pes caprae"

Leea indica Bandicoot Berry 3-5m

Lepidozamia hopei Zamia Palm

Leptospermum "Pacific Beauty"

Leptospermum "Pink Cascade"

Licuala ramsayi Fan Palm

Lithomyrtus obtusa Pink Myrtle 1--11/2m

Livistona muelleri Fan Palm 12m

Lomandra hystrix Matt Rush 1.2m

Lomandra longifolia

Lomandra spicata

Lomandra "Trpoic Belle" 1.2m

Medinilla balls-headleyi

Melaleuca (formerly Callistemon) in variety

Melaleuca "Little Beauty"

Melaleuca "Little John"

Melaleuca "Pink Lace"

Melastoma malabrathricum Native Lassandra 1-11/2m

Microsorium scolopendria (polypody fern)

Murraya paniculata (cutting grown form)

Molineria capitulata

Nephrolepis spw. (selected species only)

Neololeba altra

Orthosiphon aristatus "Mauve"

Orthosiphon aristatus "White"

Pandanus brookei Screw Pine 4-6m

Pandanus cookii Screw Palm 4-6m

Pandanus tectorius Screw Palm

Pavetta australiensis

Pavetta australiensis Snow Cloud 2-3m

Pennisetum alopecuroides

Phaleria octandra Cape Daphne 1-11/2m

Phyllanthus cuscutiflorus 3-4m

Phyllanthus cuscutifolius

Phyllanthus cuscutifolius

Phyllanthus multifolius

Planchonia careya Corky Apple

PLANT LIST

Proiphys amboinensis Cardwell Lily 1m

Ptychosperma elegans Solitaire Palm

Scaevola taccada

Scaevola taccada Sea Lettuce 2m

Sophora tomentosa Silver Bush 2-3m

Syzygium australe

Syzygium "Cascade"

Syzygium wilsonii ssp.wilsonii Powderpuff Lilipilli

Viola betonicifolia Native Violet

Xanthorrhoea johnsonii

Xanthostemon verticulatus

3.1.2 List of 'iconic' exotic plants for use in the Rainforest City

Alpinia in variety

Alternanthera in variety

Arachis pintoie

Bromeliads in variety

Calliandra in variety

Canna in variety

Clerodendron splendens

Codiaeum variegatum

Cordyline terminalis (selected species only)

Costus potierae (syn with costus speciosa)

Crinum xanthophyllum aureum

Dissotis rotundifolia

Dracaena in variety

Euphorbia pulcherrima "Dwarf Cream"

Euphorbia pulcherrima "Dwarf Red"

Evolvulus pilosus

Gardenia radicans

Heliconia "Jamaican Dwarf" (shade only)

Heliconia in variety

Hibiscus in variety

Hymenocallis littoralis

Hymenocallis littoralis variegata

Ixora (dwarf) in variety

Ixora in variety

Jasminum nitidum

Liriope "Evergreen Giant"

Medenilla magnifica

Miscanthus Zebrinus

Ophiopogon japonicus Mondo Grass

Ophiopogon japonicus Nana

Ophiopogon variegata Variegated Mondo Grass

Pachystachys lutea

Pentas lanceolata (selected varieties only)

Philodendron "Millenium"

Philodendron selloum

Plumbago capensis "Alba"

Plumbago capensis "Royal Cape"

Plumeria ssp. in var.

Rhoeo "Hawaiian Dwarf"

Ruellia squarrosa

Schefflera arboricola

Schefflera arboricola variegatum

Tibouchina "Jules" "

Xanthostemon verticulatus

7amia

Zingiber spectabile (Spectabilis Ginger

Zoysia tenuifolia (No-mow grass)





March 2013 - Cairns Regional Council
119-145 Spence Street - PO Box 359 - Cairns - QLD 4870
Ph: (07)4044 3044 F: (07)4044 3022 E: council@cairns.qld.gov.au

This document is available on the Cairns Regional Council website: www.cairns.qld.gov.au

