

CAIRNS | PART E

THE RAINFOREST CITY
MASTER PLAN | CAIRNS
CITY CENTRE







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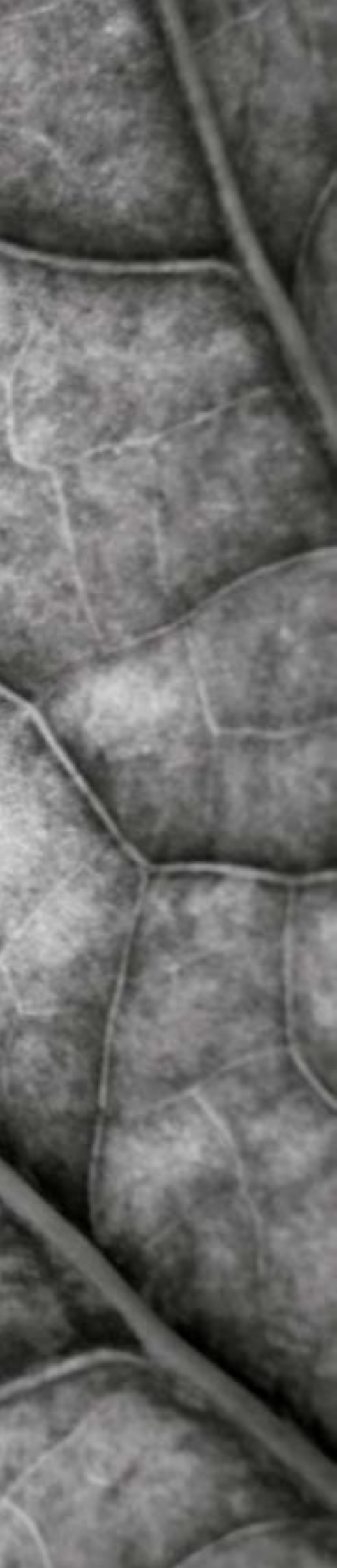
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We would particularly like to thank Architectus for allowing us to use their material and imagery; and acknowledge their valuable contribution to the preparation of this document.

References

Cairns City Centre Master Plan Report October 2011 (Architectus)

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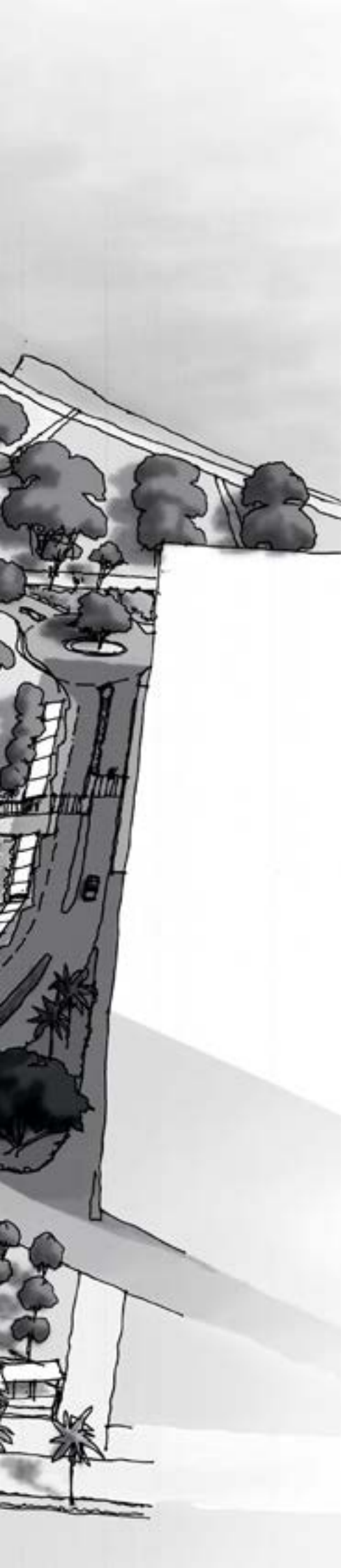
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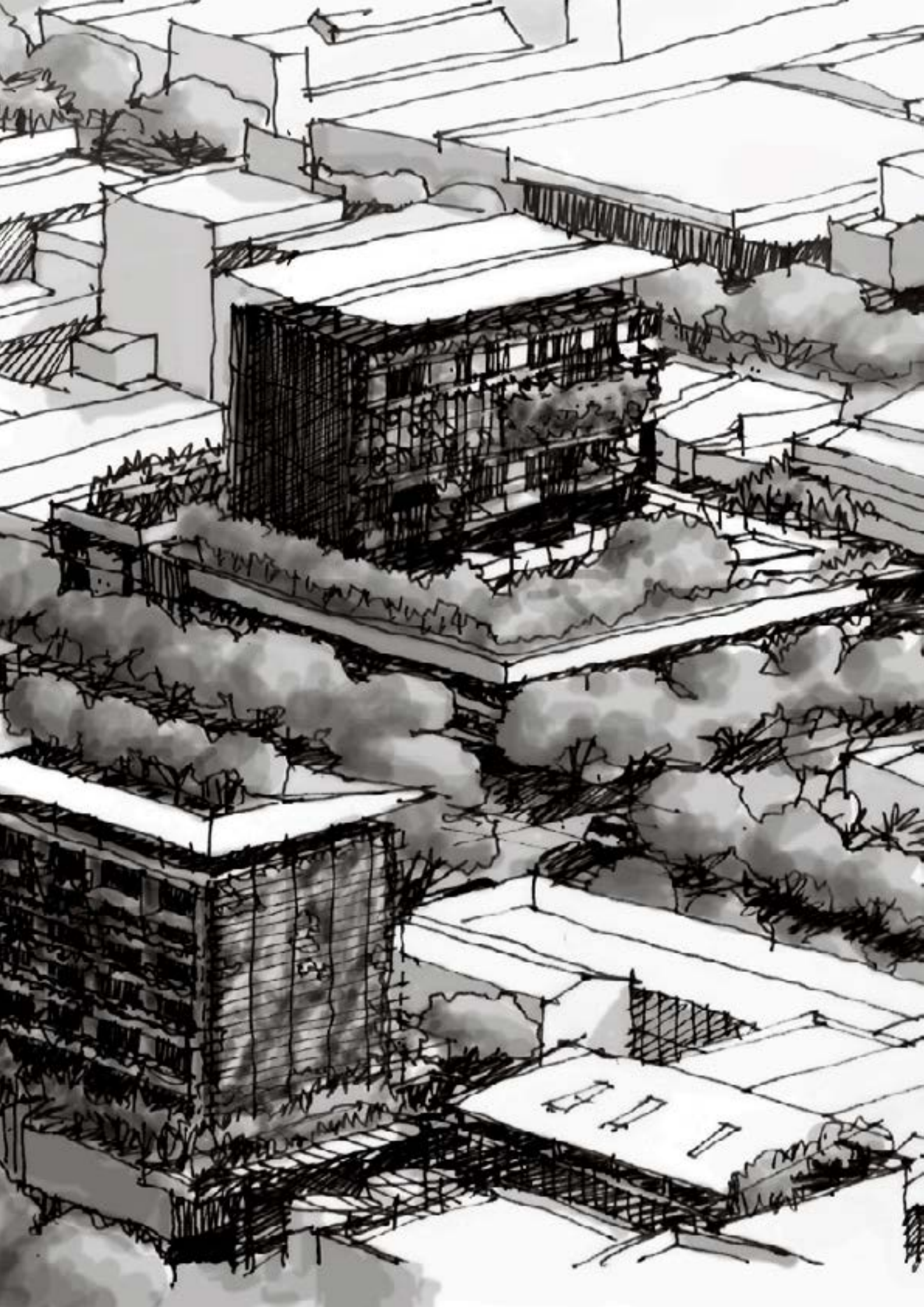
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1

INTRODUCTION



1.0 INTRODUCTION

1.1 What is the purpose of this document?

The purpose of this document is to ensure that future changes to the City of Cairns are consistent with the Cairns City Centre Master Plan Report October 2011 (Master Plan).

This document does not replace the Master Plan and is to be seen as a compliment to this document, providing design and technical data relating to streetscape and landscape elements. The master plan provides strategic direction for a number of key elements, including economic development, public art and planning issues.

1.2 What area does this document cover?

This document covers the area shown in the illustration opposite (page 11)

- From east to west the Esplanade to McLeod Street (Lagoon to Cairns Central).
- From north to south Aplin Street (Cairns Central Library) to Wharf Street (City Port).





Martyn Street

Upward Street

Minnie Street

Bruce Highway

Florence Street

Aplin Street

McLeod Street

Sheridan Street

Grafton Street

Lake Street

Abbott Street

Esplanade

Shields Street

Spence Street

Bunda Street

Hartley Street

Hartley Street

Kenny Street

Wharf Street

North



1.3 Who will use this document?

This document is intended for use by:

- Cairns Regional Council – to clearly define the character of future works and to allow for the preparation of distinct projects which make up the Cairns City Centre.
- Development Proponents and Design Professionals – to give a clear direction for future works and the development of detailed design for the various projects to be delivered.
- The General Public - to foster a better understanding of future changes to the Cairns City Centre.

1.4 How to use this document

This document is divided into two sections which will allow the user to find information relevant to the urban structure and urban design elements which make up the Cairns City Centre.

The two sections are:

- Section 2.0: Urban Structure
- Section 3.0: Urban Design Elements



Section 2.0: Urban Structure

examines the design of those key areas which make up the city centre streetscapes and urban spaces as set out by Architectus in the Cairns City Centre Master Plan Report October 2011.

Key Areas;

- City Wide Streetscapes
- City Gateways
- The City Heart
- Grafton Street Chinese Heritage Trail
- The Cairns Esplanade
- Pier Park

These key structural elements are discussed in terms of their relevance to the delivery of the Cairns City Centre Master Plan, typically detailing “WHY” the element is important and “WHAT” guiding principles will govern the design of each element. This is followed by a further discussion of “COMMON ISSUES” which answers some of the more common questions on the nature or purpose of these urban spaces.

Section 3.0: Urban Design Elements examines specific streetscape and landscape design components within the city centre, and provides technical data relevant to each component.

The Urban Design Elements are divided in to eight main sections;

- Planting Design
 - » *Tree Lists*
 - » *Plant Lists*
- City Centre Paving
 - » *Paving Design*
 - » *Street Corners*
 - » *Special Treatments*
 - » *Mid-block Crossings*
- City Centre Furniture Suite
 - » *Signage*
 - » *Bench Seat*
 - » *Drinking Fountain*
 - » *Bin Enclosure*
 - » *Cycle rack*
 - » *Bollard*
 - » *Tree grate and guard*
 - » *Shelter*
- Lighting
 - » *Light poles*
 - » *Feature lighting*
 - » *Under awning light poles*
- Awnings and Structures
 - » *Outdoor dining*
 - » *Awnings and structures*
- Storm water and flood immunity
 - » *Street levels*





2

URBAN STRUCTURE



2.0 URBAN STRUCTURE

2.1 Acknowledgement

The following section outlines the urban structure of the Cairns City Centre as set out by the Cairns City Centre Master Plan Report (Master Plan) prepared by Architectus for the Cairns Regional Council in October 2011. This section has made extensive use of material from the Master Plan; including text and imagery which have been kindly provided by Architectus for use in this document.

2.2 Vision for the Cairns City Centre

Cairns City Centre will be a compelling 'must visit' Tropical City, a cultural hub celebrating its unique Indigenous, European and multicultural heritage, its creativity and its close association with Micronesia and South East Asia. It can be a place where the rainforest landscape predominates, and a City which nurtures, supports and celebrates the unique Cairns Tropical lifestyle, climate and surrounding natural beauty.



...“the great tropical living room”

Cairns City Centre has the potential to be an outstanding, internationally recognised exemplar of Tropical Urbanism – creating a built environment – streets, spaces, and buildings – which is uniquely tropical – verdant, shaded, open and lush, with an architecture of deep verandas and shaded cool retreats. Developing and promoting a strong ‘Tropical Urbanism’ will enable the City Centre to respond to the challenges of environmental sustainability as well as reinforce its international prestige and distinctiveness.

In creating a more compact, connected and sustainable City Centre, it needs to be walkable, green, and welcoming. The streets and public spaces need to be of a consistently high quality where the defining characteristics of the climate and the locale are reinforced. The master plan envisages a cool,

shady City Centre with a rich array of significant tropical plantings, building on the character and practicality of large scale median plantings and deep awnings that has already been established.

The master plan therefore embraces key strategies to create Australia's best Tropical City:

- Create streets which are the tropical outdoor rooms of the City
- Create a civic network of great tropical gathering spaces
- Reinforce the unique physical characteristics of Cairns: its calm waters, verdant landscape, verandas, shaded places and cool laneways
- Celebrate its role as the cultural hub of the north, supporting events, creativity and diverse cultures and heritage in the City Centre
- Concentrate, mix and intensify activity in the City Centre by creating a more compact and mixed use City Centre
- Make it easy for people to get into and around the City Centre by supporting public transport, and balancing pedestrian and car access



“... a place where the rainforest predominates, where people shelter from the hot tropical sun and come out to celebrate the cool of the evening...a community oriented centre where people can gather, live, work, shop, or just ‘be’ in the city.”



KEY DESIGN PRINCIPLES

2.3 Key Design Principles

The Master Plan Vision is guided by the following set of principles:

- A place where people want to be for shopping, dining, entertainment and doing business.
- A place where people want to live.
- A tourist attraction in its own right, drawing local day visitors and visitors from around the world.
- A vibrant, prosperous economic driver of our Region.
- Environmentally, economically, socially and culturally sustainable.
- A green, tropical, attractive Cityscape that is safe, friendly, efficient, accessible and human in scale.
- A tropical, planted City where slow speed road environments (40km/hour) are shared between cars, buses and bicycles.
- A very walkable and pedestrian friendly green City Centre with ambient cooling and character defined with substantial median planting throughout the core.

“...Cairns City Centre has the potential to be an outstanding, internationally recognised exemplar of Tropical Urbanism”





Clockwise from top left - Two example of green walls, the Cairns Yacht Club and Salt House Restaurant courtesy of Cox Rayner, Artist impression of a tropical urban streetscape.



URBAN STRUCTURE

2.4 The Urban Structure

What is the urban structure for the city centre?

The Master Plan sets in place a strong urban structure for the City Centre, and describes public spaces, streetscape and detailed urban features. In this way it provides a holistic framework for the future development of the city of Cairns. The master plan is directed towards making a festive, vibrant, welcoming Tropical City where people can connect with one another, the extraordinary place, and the remarkable creativity and cultural diversity that is Cairns.

Creating Tropical gathering spaces is at the heart of the Master Plan. At present Cairns has the Esplanade, with its associated green spaces and the trees around City Place as popular gathering spaces. These can be greatly enhanced to create the defining character of Cairns City Centre – the connectors, the foci of the City. There is a sparseness of green, cool, inviting tropical spaces in the heart of the City and connecting to Trinity Inlet, and the popularity of the areas around the large figs in City Place attest to the community's use and enjoyment of such spaces and the need for more.

The Master Plan proposes to greatly increase the quality and quantity of green shaded and sheltered gathering spaces which are strategically located in the heart of the City Centre, connecting the City Centre with the Esplanade Parkland and waterfront.

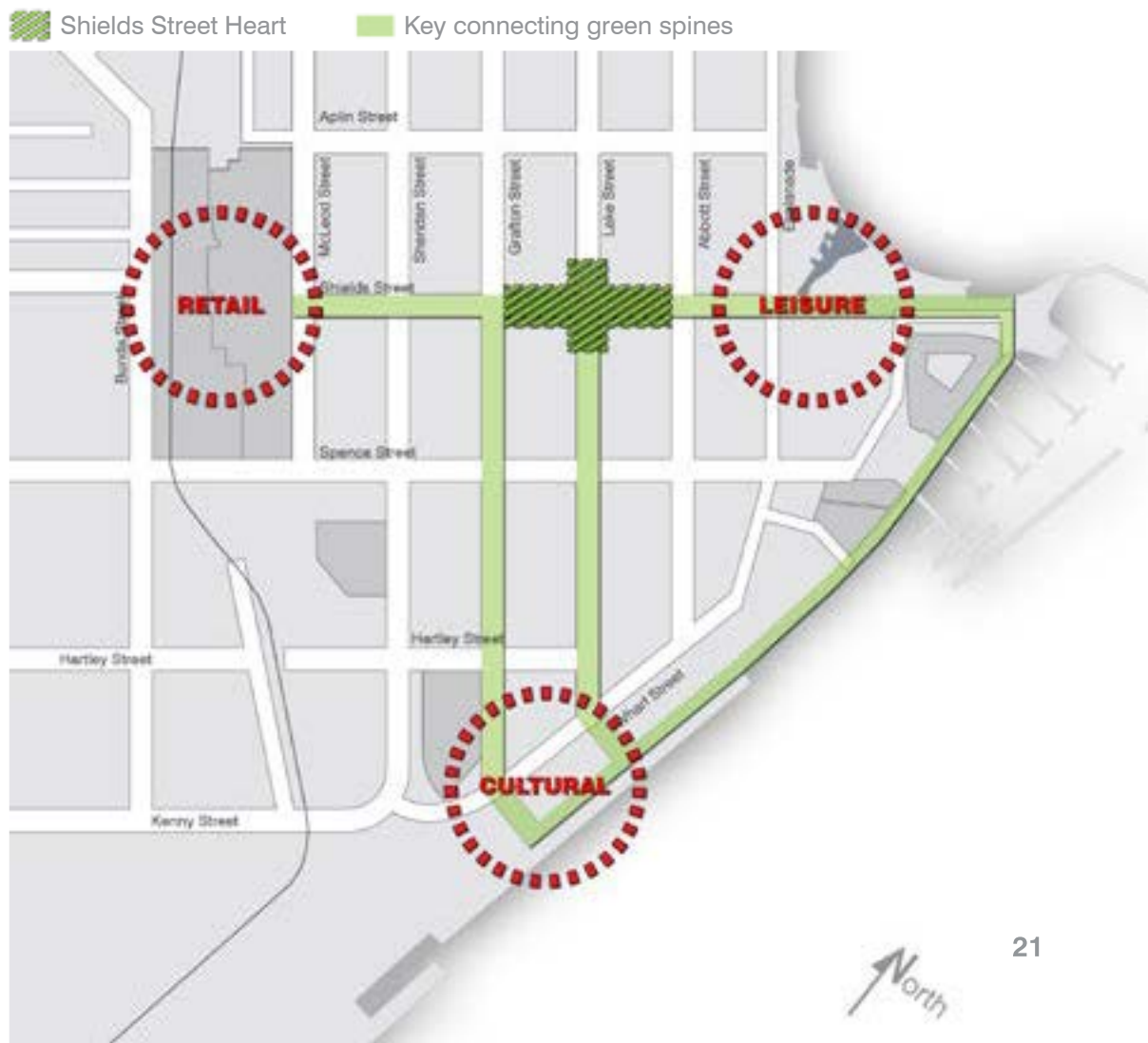
“Creating Tropical gathering spaces are at the heart of the vision for the Cairns City Centre.”



“...a Tropical City where people can connect with one another, the extraordinary place, and the remarkable creativity and cultural diversity that is Cairns.”

These green spaces are strategically located to create strong links to the Cairns Esplanade and proposed waterside developments on the Trinity Inlet.

- Shields Street Heart
 - » *A new heart and public space with sheltered seating and gathering spaces,*
 - » *Refurbishment of the seating areas around the existing fig trees,*
 - » *A sequence of water feature elements*
 - » *Grassy areas with shade trees for seating and respite.*
- Grafton Chinese Heritage Trail
 - » *The establishment of a streetwide theme based on Grafton Street's Historic Chinatown.*
- Pier Park
 - » *A new green gathering space built over the Pier Car Park.*
- Cairns Esplanade
 - » *Lively mix of leisure and outdoor dining*
 - » *Strong interface with the Esplanade Parkland and boardwalk*



CITY WIDE STREETSAPES

2.5 City Wide Streetscapes

Why this is important

Cairns' tropical character is defined strongly by its planting; the large trees on the Esplanade, in median strips and around City Place are strikingly beautiful and cooling, lowering ambient temperatures around them by several degrees. The large scale planting in the centre of city streets creates a cooler and unique environment and there are a number of very successful planted medians with large canopy tropical trees and lush understorey planting.

Cairns is fortunate to have a road reserve width of 40m (very nearly twice as wide as the State Capital) which offers the opportunity to create substantial median planting with large trees. The Master Plan presents a consistent and clear landscape strategy to define and transform the City Centre, creating cool, green streets.



Top - Photo of the existing mature fig trees in Shields Street

Right - Artist impression of a typical city street.







CITY WIDE STREETSCAPES

Design principles

- A consistent treatment of large canopy shade median trees and understorey planting is applied to all City Centre streets (refer to the Rainforest City Centre Tree List on pages 62-63 for full details)
- Footpath and shoulder trees are not a typical feature of the master plan; awnings will provide more suitable shade and protection to pedestrians (refer to awnings and structures on pages 110-111 for further details)
- Where streets are adjacent to city parks or open urban spaces footpath trees should be planted to provide cover in the absence of awnings
- Where there are city parks and urban open spaces feature planting may be used to accent these areas (refer to Rainforest City Plant List Special Planting on pages 62 - 73 for further details)
- Encourage the urban rainforest throughout the City – at ground level and through sky gardens and green walls
- The pattern of large shade trees and simple lush understorey should reflect the forested hills which surround Cairns, and establish a clear rhythm to the urban environment with simple clean mass plantings and the use of a more refined palette of green shades and textures
- Street furniture extends the 'design language' established by the Cairns Esplanade and uses simple organic shapes
- Street furniture can be combined with planters which allows for the use of colourful tropical vines and climbers to add a vertical 'green' accent to the cityscape.
- Lighting is used to add vibrancy and highlight key features within the city centre
- A suite of signage will provide a suitable navigational tool to visitors and offer information and interpretation of key city features and it's shared histories



Typical layout for city centre street - plan (below and right) shows a long city block with five median trees (adapt plan to three median trees on short blocks). Artist impression of a typical city street once planted (above).



Response to common issues:

Street trees will reduce car parking spaces within the City Centre

As each tree would need to occupy a 6x6m bed as a minimum, of the 5 large trees in each long block, two can be accommodated on existing traffic median spaces and 3 in parking spaces. This means that centre parking would be reduced by 6 car spaces per long block.

On the short blocks, all 3 large trees can be accommodated on traffic medians on Spence and Shields Street. 2 trees can be accommodated on traffic medians in Aplin and Hartley Streets and 1 in parking spaces - the net result being that centre parking is reduced by 2 spaces per short block in Aplin and Hartley Streets.

Overall this is consistent with Cairns Regional Council's long term parking strategy (10yrs plus), where there will be a gradual reduction in parking supply and an increase in public transport usage combined with walking and cycling.



What will happen to the existing trees?

It is essential to retain the existing, successful shady median planting and substantial trees within the City Centre.

Creating a City of large street trees will take time and the existing successes need to be built upon to establish a strong overall effect. Existing trees will need to be properly assessed by a qualified arborist to establish the vigour and health of each specimen and their value to future planting schemes.

Will we have trees planted in the footpaths and edge of road?

Street awnings are very important for providing continuous sheltered access to shops. In most areas these awnings are close to the edge of the kerb, making it difficult to plant trees on footpaths or at the kerb side; unless deep build outs are made. The median is better suited to the planting of large shade trees that are in scale with our city streets and will provide the most visual impact.

The road shoulder is similarly constrained by encroaching awnings with limited space for planter beds and conflicts with services and parking. For this reason the master plan concentrates on providing more significant shade trees within the median where these constraints are not an issue.





CITY WIDE STREETSCAPES

2.5.1 Typical Cross Sections

The City Centre road hierarchy was developed in the late 1980s and early 1990s and has formed the basis for the Rainforest City Master Plan and the Cairns Pedestrian Movement and Cycle Travel Strategy 2004. The diagram opposite represents how the roles of different streets have been allocated in the City Centre;

- Sub-arterial Roads
 - » *Sheridan Street*
 - » *Abbott Street*
 - » *Spence Street*
 - » *Wharf Street*
- Collector Streets
 - » *McLeod Street*
 - » *Aplin Street*
 - » *Grafton Street*
 - » *Hartley Street*
 - » *Shields Street (between Esplanade and Abbott Streets & Grafton and McLeod Streets)*
 - » *Esplanade*
- Special Areas
 - » *Shields Street (between Grafton and Abbott Streets)*
 - » *Lake Street (between Aplin and Spence Street)*

Sub-arterial Roads

Sub-arterial roads are designed to carry significant traffic volumes and allow access into the City Centre for vehicles.

Collector Streets

Collector streets provide for parking, together with safe and convenient access for cyclists and pedestrians within the City Centre. They are a lower speed environment, more people friendly, with streetscaping and kerbside dining.

Special Areas

Special areas have been designated as part of the restructuring of the City Centre and form the new City Heart at the centre of the city. Refer to page 20-21 Urban Structure for further details of special areas.

A typical plan of a city centre street can be seen on the previous page.

For details of city centre footpath treatments refer to section 3.4 City Centre Paving on page 74.

For details on Special Areas refer to section 2.7 The City Heart on page 36.



- | | |
|--|---|
|  Arterial |  Heavy Vehicle Route |
|  CBD Sub-Arterial |  Special Treatment |
|  CBD Collector | |

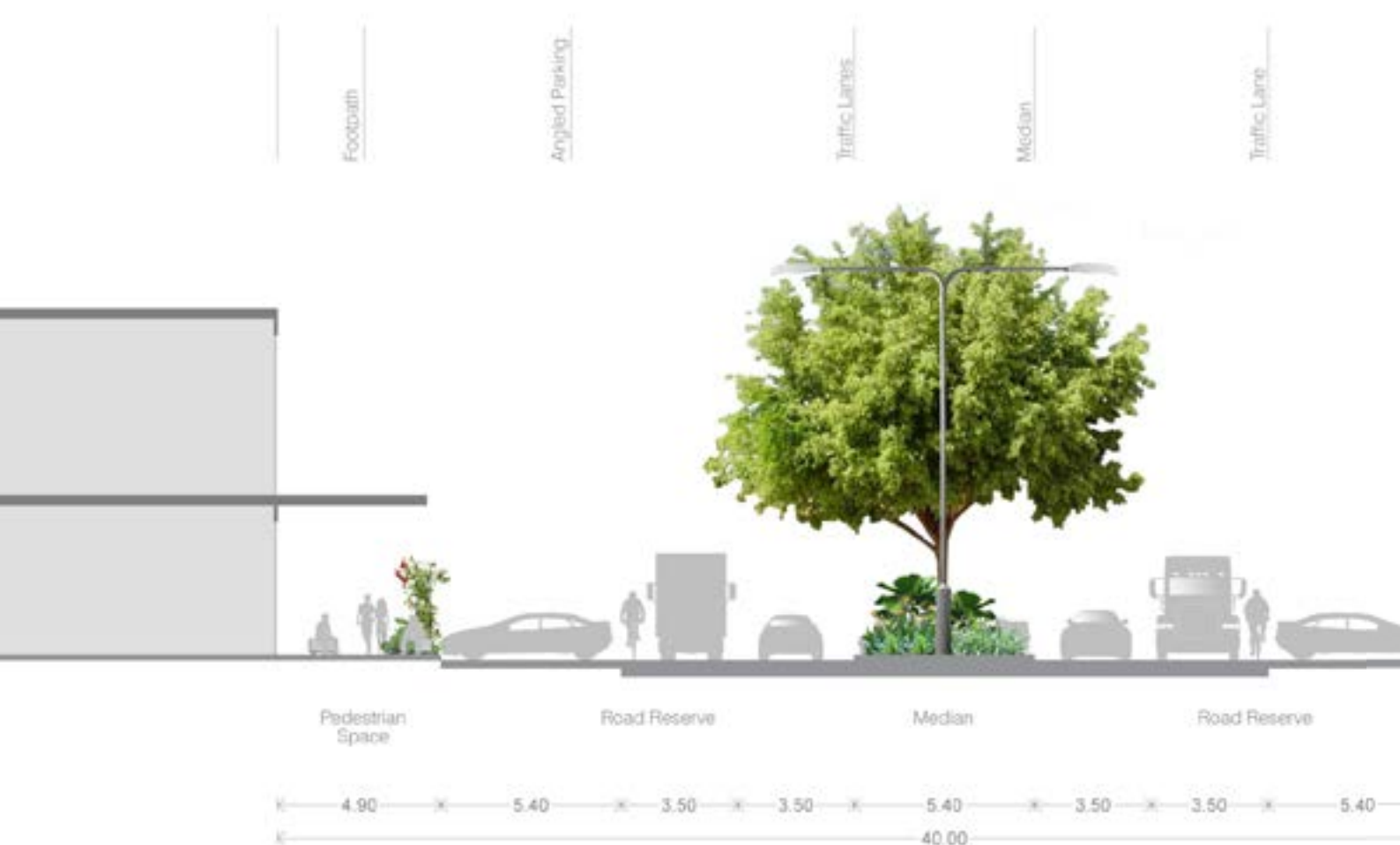


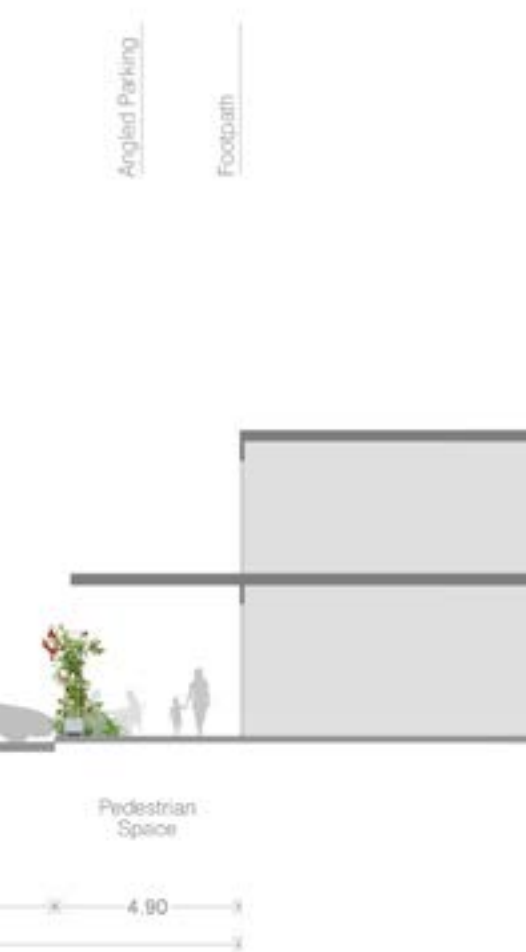


SUB-ARTERIAL STREETS

2.5.2 Typical Sub-Arterial Road Section

This section illustrates the typical cross section for a sub-arterial road - two lane median divided (which may include limited centre parking), with angle parking to shoulders.





Artist impression of a typical city street once trees have matured (top) and photo of the existing street prior to planting (left). This illustrates the transformative affect trees can have on our city centre streets.

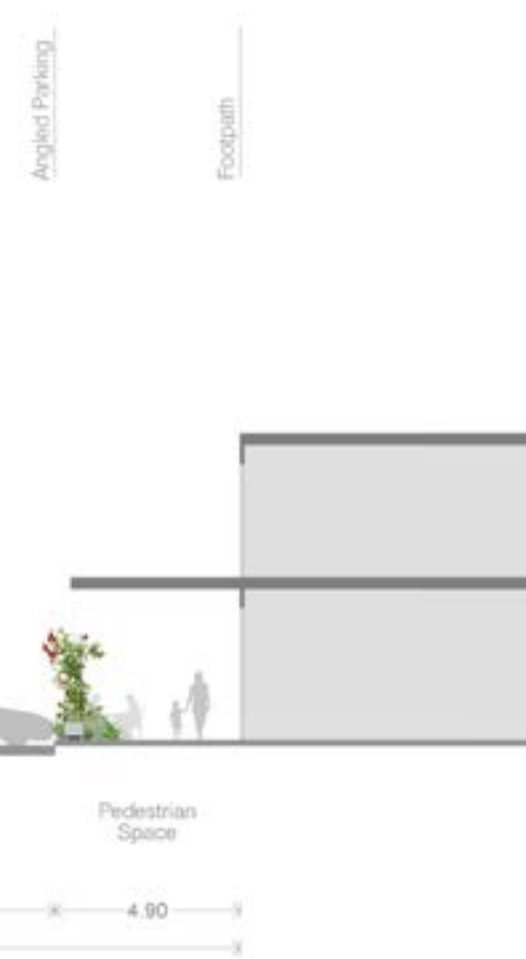


COLLECTOR STREETS

2.5.3 Typical Collector Street Section

This section illustrates the typical cross section for a collector street - two lane median divided normally with centre parking and angle parking to shoulders.





Artist impression of a typical city street once trees have matured (top) and photo of the existing street without trees (left). This illustrates the impact of street trees which are in scale with their urban environment.



CITY CENTRE GATEWAYS

2.6 City Centre Gateways

Why this is important

The more compact structure of the City needs to be clearly defined using planting. The gateway treatments will be important - inviting drivers to slow down, park and walk through the City within a lush green environment. The gateway planting will also clearly define the 'threshold' of the City Centre, its greater levels of pedestrian activity and more intense land use.

“Gateway planting will clearly define the ‘threshold’ of the City Centre...”

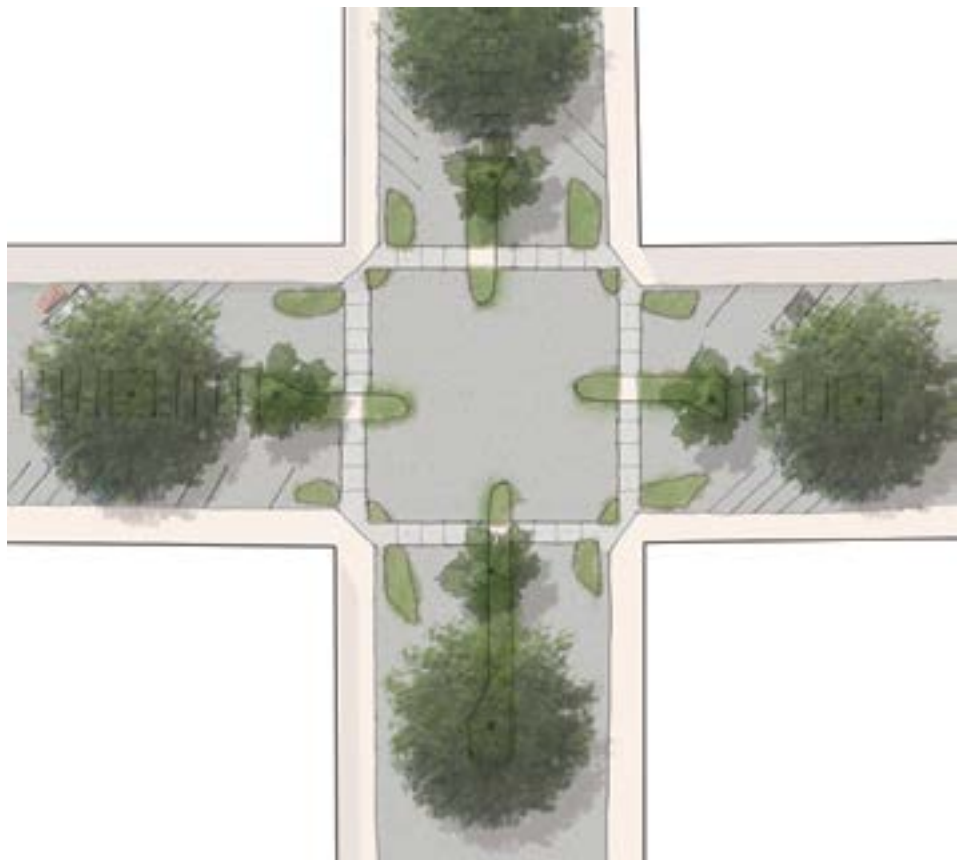
Design principles

- Gateway treatments can include more sculptural Tropical plants
- Introduce colour to the understorey.
- Species for gateway planting are listed in the Rainforest City Plant List on pages 62-73

Response to common issue:

Planting will interfere with road safety

Planting design throughout the city centre will need to have regard to **Crime Prevention Through Environmental Design (CPTED)** principles and impacts on the Closed Circuit Television (CCTV) surveillance networks. For this reason gateway planting will utilise groundcover species where sight lines need to be maintained.





- | | |
|---|--|
|  Gateway edges
(defined by green edges and gardens) |  'City Heart' - Special Treatment |
|  Refer to Sub-Arterial Street Section |  Grafton Street - Special Treatment |
|  Refer to Collector Street Section |  Parkland |





THE CITY HEART





SHIELDS STREET HEART

2.7 The Shields Street Heart

Why this is important

The Shields Street Heart proposes to create a pedestrian friendly 'green spine' of shady public space which links Grafton Street to Abbott Street along Shields Street. This 'green spine' will also serve to provide new community gathering spaces within the heart of the City, while maintaining a strong pedestrian link across Lake Street.

Key Design Elements -

- *Shields Street between Abbottt and Spence Street will be treated as a shared space.*
 - » *Vehicle access will be limited to provide for loading and waste collection and localised private off-street parking.*
 - » *Traffic speeds reduced to 10kph.*
 - » *Vehicle access can be controlled by the use of hydraulic bollards or similar devices at the entrance to Shields Street to deny access to traffic during special events or after business hours.*
- *Lake Street will pass through Shields Street as a shared zone link*
 - » *30kph speed restriction is enforced.*
 - » *Rows of bollards and lighting poles (with banners) and in ground tactile indicators edge the link and provide a necessary signal to people with visual impairments.*
- *The existing large tropical shade trees will be retained and become a focus of the new Shields Street Heart.*
 - » *The existing tiled retaining walls will be retained and new garden beds added as required by project*
 - » *Beneath the trees will be replanted with tropical species to reflect our unique climatic conditions and evoke the lush foliage of our local rainforests.*
- *A new transport hub will be located at the northern end of Lake Street*
 - » *The new southbound bus station will abutt the existing Cairns Central Library Park*
 - » *The new northbound bus station will abutt the current Grafton Street Car Park . This has a development approval which provides for the creation of a large public plaza to the frontage of Lake Street.*
 - » *The new transport hub will create a suitable gateway for visitors to the city centre.*
 - » *A continuous awning will be installed along the full length of the Lake Street Car Park to provide suitable all weather protection for pedestrians.*
- *A Water Plaza (between Lake Street and Abbottt Street)*
 - » *The splash play area takes the form of a fountain made up of a series of water jets*
 - » *Fountain to be based on indigenous myths about surrounding the Rainbow Serpent*
 - » *Theme of 'rainbows' to be explored through the use of water, mist and lighting.*
 - » *The splash play area can be switched off to maximise space and provide more room for special events such as markets, festivals and larger performances.*
- *A City Park (on Shields Street between Lake Street and Grafton Street)*
 - » *Lawns are provided along the centre of the street to create a relaxed outdoor dining area*
 - » *This new picnic/relaxation area supports both the proposed Water Plaza to the east and Rusty's Market to the south.*
 - » *All existing trees are to be retained with new retaining structures and seating installed around the base where required.*

Response to common issues:

What makes Shields Street Heart special?

Shields Street will be enlivened by a sequence of water features making use of modern technologies to explore water in its many aspects as mist, jets, and cascades. These can be incorporated to explore the broader themes associated with our region, our local creeks and falls and their relationship to the traditional owners of the Cairns' region.

How does a shared space work?

The concept of shared space was developed in Europe several decades ago. The concept is simple, kerbs are removed and the footpath is taken the full width of the reserve. Vehicle speeds are restricted to 10kph and street furniture is used to articulate vehicle movement across the site. There have been several recent shared space projects in regional Australia, including Flinders Street in Townsville and Bendigo in Victoria.

What becomes of City Place?

The existing City Place will be reshaped to include two way vehicle traffic allowing buses and cars to cross Shields Street. The Main Plaza located between Lake and Abbott Streets, and the Shields Street City Park between Lake and Grafton will replace City Place and provide new public spaces which can be adapted to a range of uses. The Water Plaza which lies at the entrance to Shields Street (Abbott Street) will act as a Gateway to the City Centre, welcoming visitors to the Shields Street Heart.

What will happen to the large fig trees?

The large fig trees, and the Fish Poison trees which currently frame City Place and line Shields Street will all be retained and utilised for their valuable shade and protection in the new city heart design. The low tiled walls beneath the trees will be retained and replanted with tropical, rainforest species.





SHIELDS STREET HEART



Legend

1. New raised gardens to form underplanting to the large fig tree
2. New avenue of trees
3. Extended median with open lawns, shade trees and tropical plantings
4. Trees and tiled walls are retained with new tropical planting beneath
5. 'Mist' Sculpture installed to the grassy mound
6. 'Dance Steps' Water Feature
7. 'Cloud' Water Feature set within the fig tree with lush tropical planting beneath
8. Possible pump room location
9. Main Water Feature
10. Kiosk (Visitor Centre, WCs and alternate pump room location)
11. 'Cascade' water Feature as part of mid-block cross over
12. 'Waterhole' Water Feature (new Shields Street Heart Gateway)





WATER PLAZA



Project Facts

- >40% more public open space
- >20% more landscaping
- >80% more trees

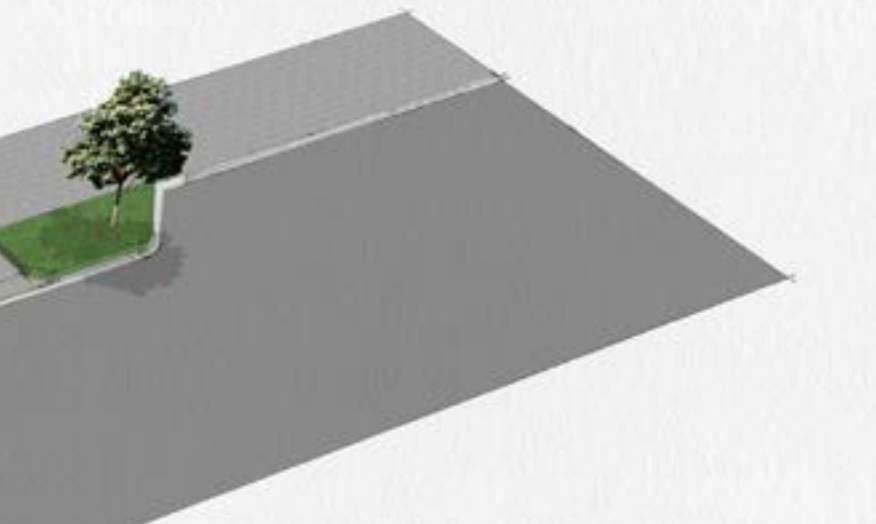
“...a place where people want to be for shopping, dining, entertainment and doing business.”

2.7.1 Shields Street Heart - Main Water Plaza

The **Water Plaza** is at the centre of the new Shields Street Heart and is seen as an extension of the Cairns Esplanade and is designed as a sequence of versatile public open spaces within the heart of the city centre, which can be used for a range of social gatherings, festivals and events or just to sit and watch the world go by.

Design principles

- *The Water Plaza will operate as a shared space*
 - » *Limited vehicle access to provide loading, waste collection and access to existing off street parking (access restricted to eastern end of the main fountain and no further).*
 - » *Speed limit reduced to 10kph*
 - » *Hydraulic bollards or equivalent can be provided at entrance to allow the area to be closed to all vehicles for special events or outside of daytime trading hours.*
- *Explore the use of water and associated technologies to provide a series of unique and imaginative zero depth water features*
 - » *Mist and fog*
 - » *Water jets*
 - » *Cascades*
- *Kiosk*
 - » *Visitor Centre providing a range of interactive/touch screen information on the region and Cairns in a range of languages*
 - » *Incorporate public toilets and or pump room (for water features)*
 - » *Incorporate a covered mid-block crossing*
- *Main Fountain*
 - » *The main fountain may incorporate an interactive element but is primarily a 'staged' element that allows for larger jets and higher water pressure.*
 - » *Main fountain could provide a programmed animated water and light show*
 - » *Area must be readily adaptable to provide additional space for special events.*



WATER PLAZA



Above - Artist impression of the Main Fountain surrounded by tropical shade trees. Below - section showing the 'Cloud' Water Feature

Shields Street Water Plaza

The proposed design would replace the existing playground with a water feature made up of two fountain elements. To the front would be a sequence of smaller interactive jets set within the pavement; and to the rear would be a larger elevated platform that would provide a 'water show' at scheduled intervals throughout the day and early evening. These would provide both a playful element and a spectacle that will entertain children and adults alike. With no standing water these elements do not promote 'bathing' and can be turned off, allowing the water to drain to a submerged tank.

To celebrate the city's unique natural setting we are proposing to create a 'Cloud' feature within the existing large fig tree (adjacent to the Woolshed and Rockmans).



The 'Cloud' feature will be created using a series of fine nozzles to spray a dense mist within the canopy and upper branches of the tree. These will mimic the clouds that nestle across the surrounding rainforested hillslopes and will provide Cairns with a unique water feature. The clouds will help to cool the area and, when illuminated at night provide a striking feature in the heart of the city. The existing underplanting will be improved to create a lush tropical rainforest floor. A versatile City Plaza with water at its centre

Left - Artist impression of the Water Plaza hosting a festival.

“...more lawns, trees, shade and water.”



Above - Before (left), Artist impression (right) showing the water plaza.

- *The Water Plaza is dominated by a large fountain which provides a key focus for Shields Street.*
- *Provides a cool place to sit and relax and entertainment to visitors, shoppers and diners alike.*
- *The Water Plaza comprises a zero depth fully animated performance fountain (raised on a platform to allow for high pressure jets) and a smaller in-ground interactive fountain to the front.*
- *These fountains can be shut down to adapt the Water Plaza for use during festivals, special events or market days, and the platform for the main fountain can be adapted as a stage with a demountable structure.*
- *The Plaza forms a welcoming feature to visitors as they approach from the Esplanade.*
- *The Plaza is closed to vehicles and is fully pedestrianised.*

Response to common issues:

What happens during festivals or special events?

The Water Plaza can be closed to all traffic to allow special events or festivals to take place. The fountains can be shut down to provide additional space and a demountable stage and shade structure can be erected over the main fountain. Response to common issues:

Water features can become a public nuisance.

There are several water features identified in the master plan to be located across Shields Street. These vary in scale and intent but all will be zero depth and hold no surface water. Each of the water elements can be switched off to limit 'out of hours' use and CCTV and ongoing security can help to reduce anti-social behaviour.

“...a piece of rainforest in the city centre.”



Accessible Zone
Non-shared
space, clutter free,
pedestrian only

Main Fountain (to front) with the 'Cloud' Water
Feature (to rear)
Non-shared space, pedestrian only with new
garden beds with lush foliage, trees and
palms.

Accessible Zone
Non-shared
space, clutter free,
pedestrian only



WATERHOLE FEATURE



Waterhole Feature

The Waterhole water feature is intended to act as a gateway to the new Shields Street Heart. The 'Waterhole' is designed as a sequence of water spouts and 'boulders' arranged to mimic a waterhole. Waterholes are traditional gathering places and sites such as Fishery Falls and Crystal Cascades attract many visitors. The 'Waterhole' could be realised through collaboration with an artist or with traditional owners to realise a unique entry feature for the water plaza.

'Cascade' Feature

The cascade is integrated with a covered walkway that extends out from the proposed kiosk structure. The gentle stream of water will cool pedestrians as they use the walkway to cross Shields Street.





Response to common issue:

How does the shared space work for vehicle access?

The proposed design will open up the street to full pedestrian use by implementing a 'shared space' approach that will see the removal of kerbs and bitumen allowing pedestrians free use of the entire street. Vehicles will still be able to access the area for off-street parking and loading following much the same path as they do currently. Loading will be restricted to limit larger vehicles to early mornings. The 'shared space' provides a more pedestrian friendly streetscape and a more welcoming approach to the Shields Street Heart. Shields Street Kiosk



Above - cross section through Waterhole Water Feature (Water Plaza)



KIOSK



Kiosk

The proposed design incorporates a kiosk in the centre of the street to provide further street activation. The kiosk would incorporate two public unisex disabled toilets, a green roof and lightweight tropical architectural design. The kiosk could be used as a Visitors Centre to provide general information about our region and the city centre; this might include touch screen and other interactive facilities in a range of languages. Alternatively the kiosk could be used as a café with outdoor dining to provide both day and night time activity at this end of the street.



Above - cross section through Waterhole Water Feature (Water Plaza)



Design Principles

- *Demonstrate high quality contemporary tropical design*
 - » *provide all season protection form rain and sun*
 - » *lightweight structure incorporating good natural ventilation*
 - » *incorporate green features such as planted roofs, green walls and or climbing plants*
- *Highly visible, iconic building*
 - » *incorporate indigenous cultural heritage themes through colour or pattern*
 - » *incorporate clear and highly visible signage*
 - » *building should be 'transparent' with an open relationship to surrounding pedestrian areas*



Above - (from left to right) Kiosk, Grand Park, Los Angeles by Rios Clementi Hale Studios, A public Visitor Centre, Singapore, and Kiosk , Queens Street Mall, Brisbane.

CITY PARK

2.7.2 The City Heart - Shields Street Urban Park

The Shields Street Urban Park introduces lawns and relaxed seating areas into the heart of the city. The urban park is comprised of lawns and relaxed seating and picnic nodes all situated amid the shade of the existing large scale tropical trees which have become an iconic feature of Shields Street.

Design principles

- *The Shields Street City Park will operate as a shared space;*
 - » *Vehicle access will be limited to the existing private under ground car parking at the State Government Building and the School of Arts*
 - » *Speed limit reduced to 10kph*
 - » *Hydraulic bollards or equivalent to be provided at entrance to allow the area to be closed to all vehicles for special events or outside of daytime trading hours.*
 - » *Access to both sides of the street will be maintained*
 - » *On-street loading and drop off to be maintained*
- *Speakers Corner is to be relocated to it's former location at the Cairns Esplanade*
- *New feature gardens and a public art element provide a simple gateway to the city park at the Grafton Street entrance.*
 - » *Provide a threshold to the shared space.*
 - » *Compliment the plantings and street themes on Shields Street.*
- *The existing and new garden beds beneath the large canopy trees provide for high quality tropical planting to exemplify our unique climate.*
- *Areas of lawn provide a range of casual and informal seating, where office workers and visitors can take lunch or relax.*
- *A series of raised gardens beneath the large canopies provide for high quality planting to exemplify our tropical climate.*
- *Areas of lawn provide a range of casual and informal seating, where office workers and visitors can take lunch or relax.*
- *The city park will be a venue for public art.*

Response to common issues:

Who will use the city park?

The Shields Street City Park is intended for a variety of users. The park will provide opportunities for passersby to sit and relax, and for local office workers to take a break outside, meet and take lunch. During special events the park can act as an additional venue for markets or festival activities, perhaps with a more family oriented function. This shaded and relaxed open space also provides opportunities for 'picnicking' as support to events and to the nearby Rusty's Markets, taking advantage of the existing large shade trees.







CITY PARK



Above - cross section through city park.



Above - longitudinal section of the City Park from Lake Street (left) to Grafton Street (right)



Above - site photo and artist impression of the new entry to the City Park from Grafton Street (note: Public Art will be provided through the Council's Public Art Advisory Group).

The City by Night

Lighting plays a key role in the refurbishment of the city centre and in particular the new Shields Street Heart. Lighting can transform the cityscape and enhance the visitor experience, attracting more pedestrians and increasing night time activity and safety.

LED lighting can be used to enhance the water features with changing colour patterns and themes. Projectors can be located to transform buildings with coloured lights and animated images that can reflect natural and indigenous heritage values. Lighting can be used to transform Shields Street for special events, festivals, or Christmas shopping or other celebrations or commemorative occasions.



Existing large shade trees are combined with lawns, new street trees, public art and tropical plantings to create a vibrant city park.



CITY BY NIGHT

Lighting

- *Lighting will be used extensively to enhance the Shields Street Heart at night, and provide a safer more pedestrian friendly environment.*
- *A range of modern technologies will be used to enhance the streetscape;*
 - » *in-ground lighting*
 - » *wash lighting*
 - » *RGBW LED lighting technology*
 - » *lasers*
 - » *projections & lighting to building facades*
- *Water features will be fully illuminated using the latest in programmable LED coloured lighting technology*
- *Lighting will reflect the colour and vibrancy of our tropical city, and can be used to further explore Shields Street Themes*

The Rainforest

Our unique tropical rainforest links back to the ancient land mass of Gondwana.

Creeks & Waterholes

Our region has bountiful rainfall and is blessed with many cascades, creeks and waterholes.

The Coral Sea

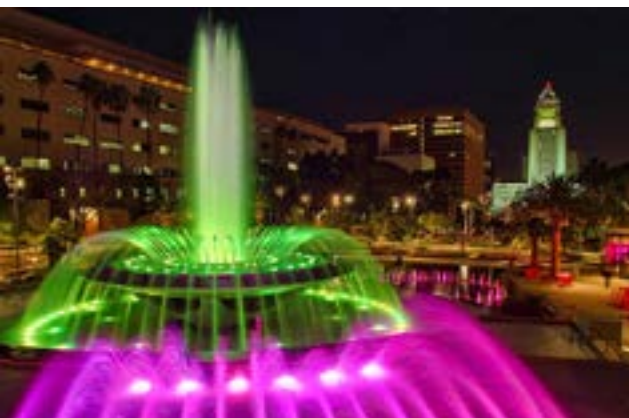
The Cairns Lagoon is a small piece of the ocean in the city centre. It celebrates our beautiful tropical coastline.



Above - The Arthur J. Will Memorial Fountain, Grand Park, Los Angeles renovated by Rios Clementi Hale Studios.



Above - (Left to right) Examples of lighting - lasers, in-ground LED lighting and water feature lighting, and building projections, taken from Forrest Place, Perth.



Above - Further photos of varied lighting effects to the Arthur J. Will Memorial Fountain, Grand Park, Los Angeles renovated by Rios Clementi Hale Studios.



THEMES & OPPORTUNITIES



2.7.3 Themes and Opportunities

Our region is defined by water and water is at the heart of the Shields Street Design. Just as the Cairns Lagoon provides a unique expression of our tropical beaches so the Shields Street Heart will explore our tropical rainforests; looking at the theme of waterholes, creeks, rain and clouds. The Shields Street Heart water features are designed to reflect and celebrate these defining elements of our region.

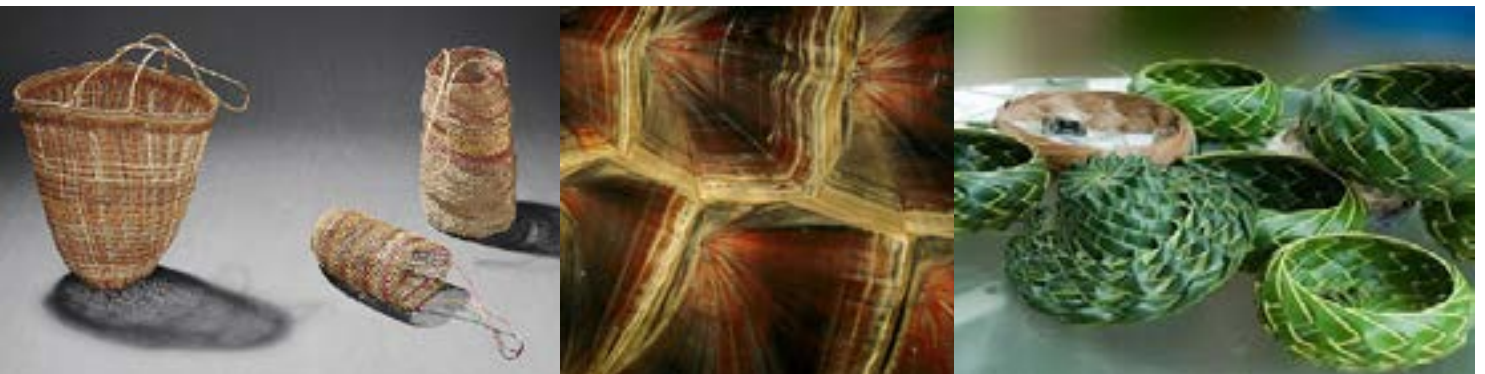
“...water defines our region and is at the heart of the new Shields Street.”



Above - One of the Esplanade Display Panels showing the story of 'Gudjugudju' the Rainbow Serpent

“...celebrating our region’s natural beauty and indigenous cultural heritage.”

The traditional owners of the Walubarra Yidinji and Yirriganydji clans have a special association with the city centre. The area of the foreshore of Cairns was traditionally known as Gimuy, named after the Slippery Blue Figs that grew hereabouts. There is a rich cultural history and an array of stories that can be interpreted through urban design elements such as water features or public art. Exploring these themes will enrich the visitor experience, provide a point of difference for the project, and help to express the role of the city as the gateway to regional Indigenous and Torres Strait Islander culture.



Above - (Left to right) Examples of traditional crafts, 'Dilli' Bags made from woven grasses, polished turtle shell, and woven bowls.



LAKE STREET TRANSPORT HUB





LAKE STREET TRANSPORT HUB



2.7.4 The City Heart - Transport Hub

The **Cairns Transit Network (CTN)** represents a tremendous opportunity to enhance the accessibility of the city centre to both locals and visitors, and to support a genuine 'mode shift' away from private vehicle reliance. Aspects of this project are to be delivered by Queensland Transport.

Design principles

- *Lake St is an important east-west connection street;*
- *Highly active and animated retail frontage throughout the defined core with deep awning shade*
- *A consistent approach to street furniture, signage, and bus stops/stations – all part of the same suite of elements.*
- *The creation of the Shields St Heart – ultimately linking across Lake St.*
- *It is a priority that large scale planting can be accommodated in Lake St.*
- *The form of the trees can be changed in Lake to better accommodate buses (palms are option).*
- *Paving and street furniture will comply with sections of this master plan.*
- *It is understood that the bus way will have its own corporate identity, but it is suggested that in the City Centre that this corporate identity can be 'tuned' to the identity of City Centre elements (see above).*
- *The CTN should be part of the general traffic solution, in line with the 'sharing' of the road environment.*



Response to common issues:

Bus stops concentrate visitors and create footpath congestion.

By locating the bus stations at the northern end of the site away from the main shopping area of Lake Street the impacts of station users on local businesses will be minimized. The adjacent library park and proposed urban plaza to the west will provide additional areas for bus users, and offer additional shade and space to compliment the stations.

The northern section of Lake Street has no awnings and looks unwelcoming.

The design will incorporate the installation of a continuous awning the length of the Lake Street Car Park. This building will also receive a 'make-over' to improve the facade, including planting and signage. These improvements will encourage pedestrians to follow Lake Street to Shields Street Square.



LAKE STREET SHOPPING PRECINCT

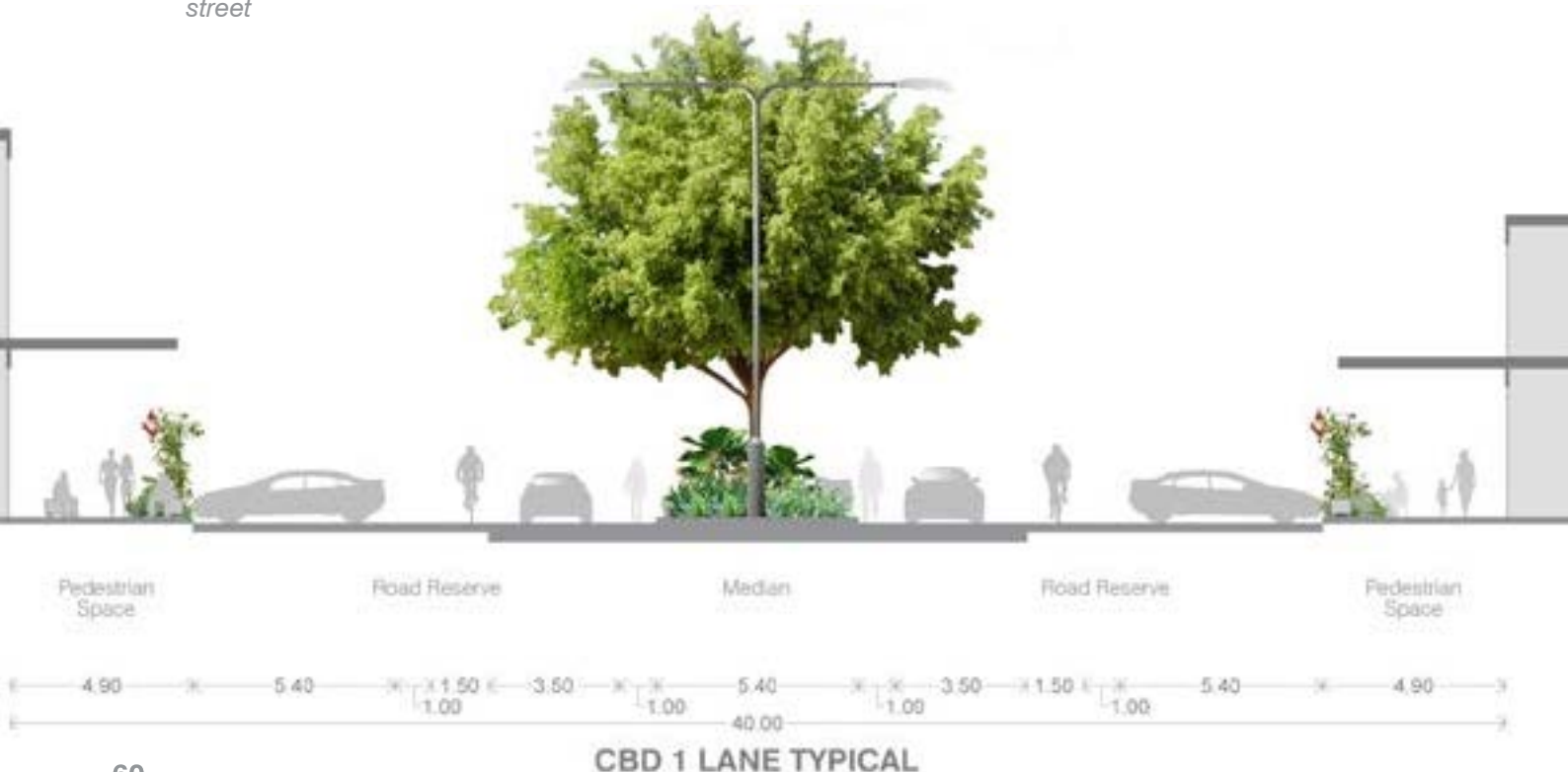


2.7.5 The City Heart - Lake Street Shopping Precinct

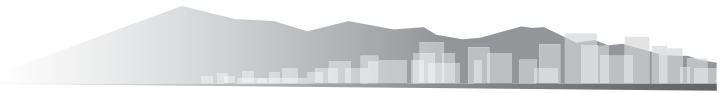
A key aspect of the city heart project is to establish a high quality shopping precinct at the southern end of Lake Street. The relocation of the bus stations and the opening up of City Place to traffic will enhance business operations and provide ease of movement across the site.

Design principles

- *Streetscape to be improved by the introduction of large tropical shade trees (refer to Collector Street sections)*
- *Large mid-block crossing to be installed*
 - » *Maintain connections between Grafton and Abbott Street provided by the city arcades (primarily Orchid Plaza and Oceana Walk)*
 - » *Provide an additional threshold to the Shields Street Square road link*
 - » *Provide small urban plazas to the frontage of the arcades*
- *Angle parking to be provided at kerb edge to support local business*
 - » *Parking areas to be defined by use of pavers to reduce bitumen and provide a high quality surface to the street*







SHIELDS STREET SQUARE



2.7.6 Shields Street Square

Shields Street Square replaces City Place and articulates the junction of the Lake Street link and the main pedestrian shared space of Shield Street Heart. Shields Street Square is made up of a number of interconnecting spaces which articulate this historic part of the city. The historic buildings at the four corners of the square will each have a unique micro plaza, these can explore local themes using site interpretation, trees and public art.

Design principles

- *The existing large tropical shade trees are to be retained and supplemented with additional trees to help shade and cool the square.*
- *Large raised garden beds beneath the large canopied trees provide for high quality tropical planting to exemplify our tropical climate.*
- *Lake Street link is designed as a shared zone at footpath level and allows for two way bus and car traffic.*
 - » *Link is treated as part of the shared space of Shields Street, and will be at footpath level with the same material finish*
 - » *Porphyry may have different finish or pattern to assist legibility of the crossing*
 - » *Link is edged with bollards and lightpoles, with in ground tactile indicators to assist those people with visual impairments*

Response to common issues:

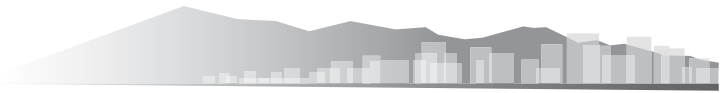
How will the pedestrians cross Lake Street?

The Lake Street Link extends the full width of Shields Street and provides a space of some forty metres for pedestrians to cross. Bollards and tactiles ensure that the visually impaired can discern the change of use and provides a visual clue to drivers and foot traffic alike. Specialist modelling has been carried out to demonstrate the effectiveness of the shared space.





Artist impression of Shields Street Square looking towards Hides Corner, showing the approach to the Lake Street Link.



GRAFTON STREET CHINESE HERITAGE TRAIL

2.7.7 Grafton Street Chinese Heritage Trail

Why this is important

The Grafton Street Chinese Cultural Heritage Trail celebrates the contribution made to the establishment of the Cairns Settlement by the Chinese Community. Grafton Street, known as Sachs Street until 1936 was at the heart of the Chinese Community and formed the centre of Cairns' Historic Chinatown.

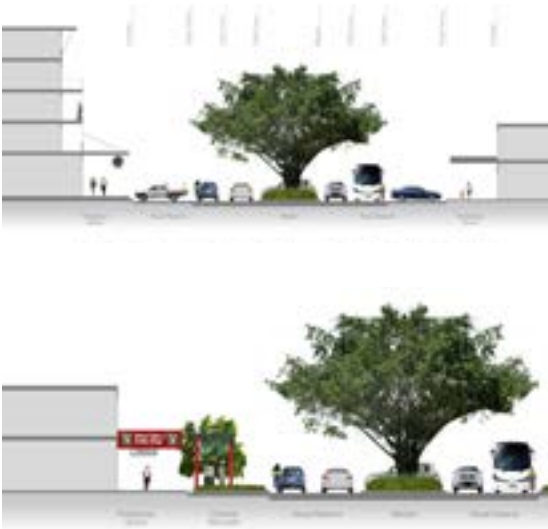
The Heritage Trail will extend from Shields Street to Spence Street, encompassing the area that formed the centre of the historic Chinese business district.

Design principles

- *Local Chinese Heritage themes are to be incorporated through*
 - » *Interpretive signage*
 - » *Public Art elements*
 - » *Lighting*
 - » *Street furniture*
 - » *Footpath stencils*
- *The colour 'red' will be used across design elements to symbolise the historic heritage values of the site*
 - » *Street furniture*
 - » *Lightpoles*
 - » *Signage*
 - » *Banners*
- *Footpath treatments will comply with the city centre paving specifications*
 - » *Stencils can be developed on historic business themes incorporating graphics and text to illustrate some of the key businesses, premises and patrons that once lined this street.*
- *Streetscape to be improved by the introduction of large tropical shade trees (refer to Collector Street sections)*

Artist impression of Grafton Street, showing an interpretive node installed within the road shoulder.





Sections showing (top) typical street section with median trees, and (above) the interpretive node as pictured left (page 54).



Artist impression of Grafton Street showing the median trees once they have matured.

Response to common issue:

Are we making a new Chinatown?

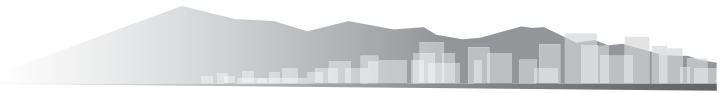
The intent of this project is not to create a new Chinatown rather to celebrate the vibrant and interesting history that lies behind this part of Grafton Street.

Proposed street sign to welcome visitors to this historic site.



Artist impression of Grafton Street at the western corner with Shields Street, showing the colour theme, street signage and site information panels.





CAIRNS ESPLANADE



2.8 The Cairns Esplanade

Why this is important

Trees, green spaces which people enjoy, a slow speed environment, festive atmosphere, connection to water, cafes and night life – has many of the ingredients of the vibrant Tropical Urban Living Room that the master plan describes. The Esplanade is an important edge of the city and connects to many of the city's attractions including Shields St, Trinity Inlet, the Lagoon and links to the Reef Terminal. The Master Plan strongly advocates upgrading the Esplanade to include new paving, and lighting, clear signage, integrated street furniture and attractive outdoor dining areas.

“...connection to water, cafes and night life...”

Footpath treatments



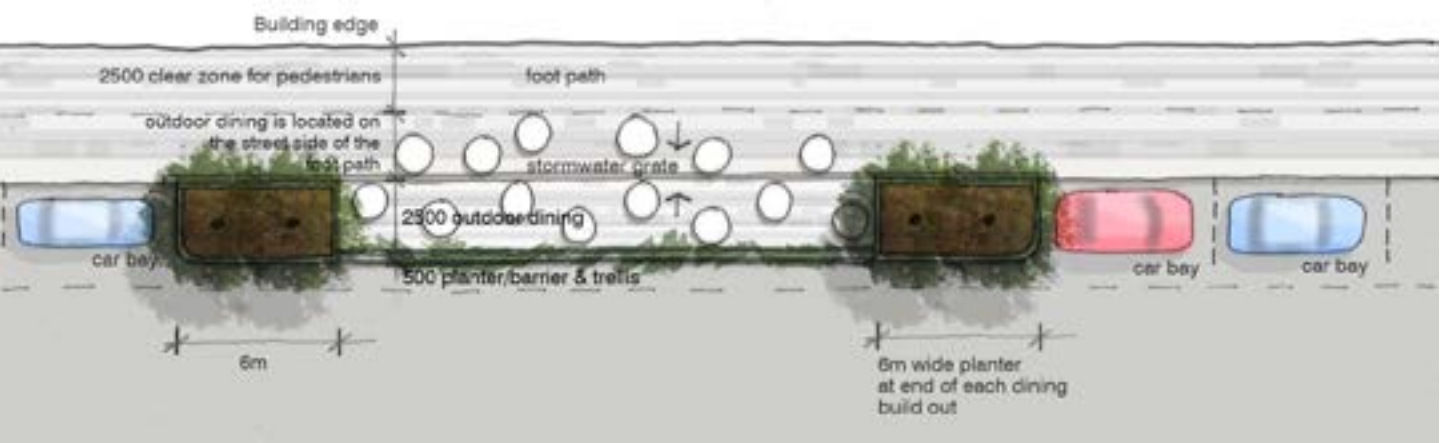
Water washed concrete (Ghost Gum and Gothic Charm) refer to Section 3.4 City Centre Paving for more details.



Hardwood timber decking (to compliment the boardwalk)



Hardwood timber slats to planters and dining dividers



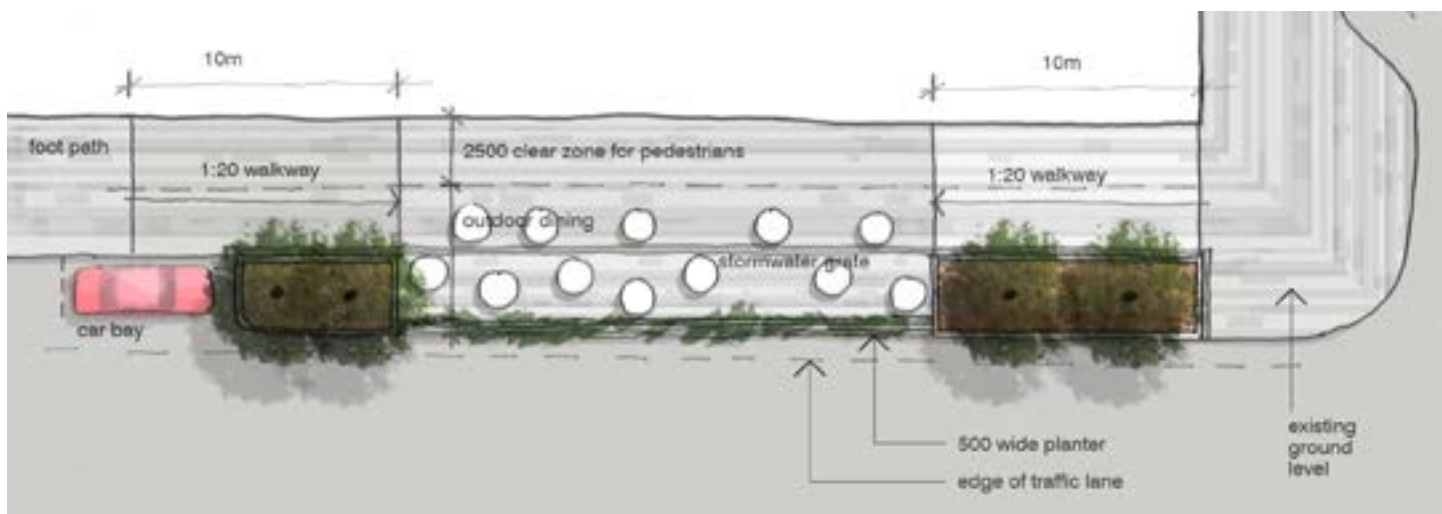
Design Guidelines

- Esplanade outdoor dining areas should be accessible, cool, sheltered dining spaces that positively contribute to the ambience of the street.
- Outdoor dining should be located on the street side of the footpath.
- Outdoor dining areas should comply with the setout shown in figures 21-22.
- A clear footpath of 2.5 – 3.0m should be retained against the building.
- The outdoor dining built out area should not exceed the depth of a parallel parking bay.
- Dining areas should have planters at each end and at the edge to separate them from the road.
- Built awnings should demonstrate the principles outlined below, but could use a variety of materials and construction types.
- Furniture should be good quality and suitable for outdoor use.
- Furniture should be properly maintained and cleaned to ensure the area retains a positive visual appearance.
- Awning design should ensure that natural daylight to the footpath is maintained.
- The awnings over the dining areas built in the road reserve should have clear, heat and UV resistant sheeting on the building side - edge of the awning.
- Awnings against the building should have a minimum of 5% area of skylight or clear sheeting.
- Cross ventilation of the footpath should be encouraged.
- A gap is required between the awning over the dining areas and against the building.
- Openings should be included in the awning against the building.
- Outdoor dining areas should be accessible to all comply with the requirements of AS 1428 and the intent of the Disability Discrimination Act
- Dining areas built into the road reserve should be at footpath level.
- Where the road level is higher than the dining area the road is retained by a low planter on the street side.
- Where the footpath and outdoor dining areas are above road level a planter retains the footpath and dining area along the road edge. Level changes must be made



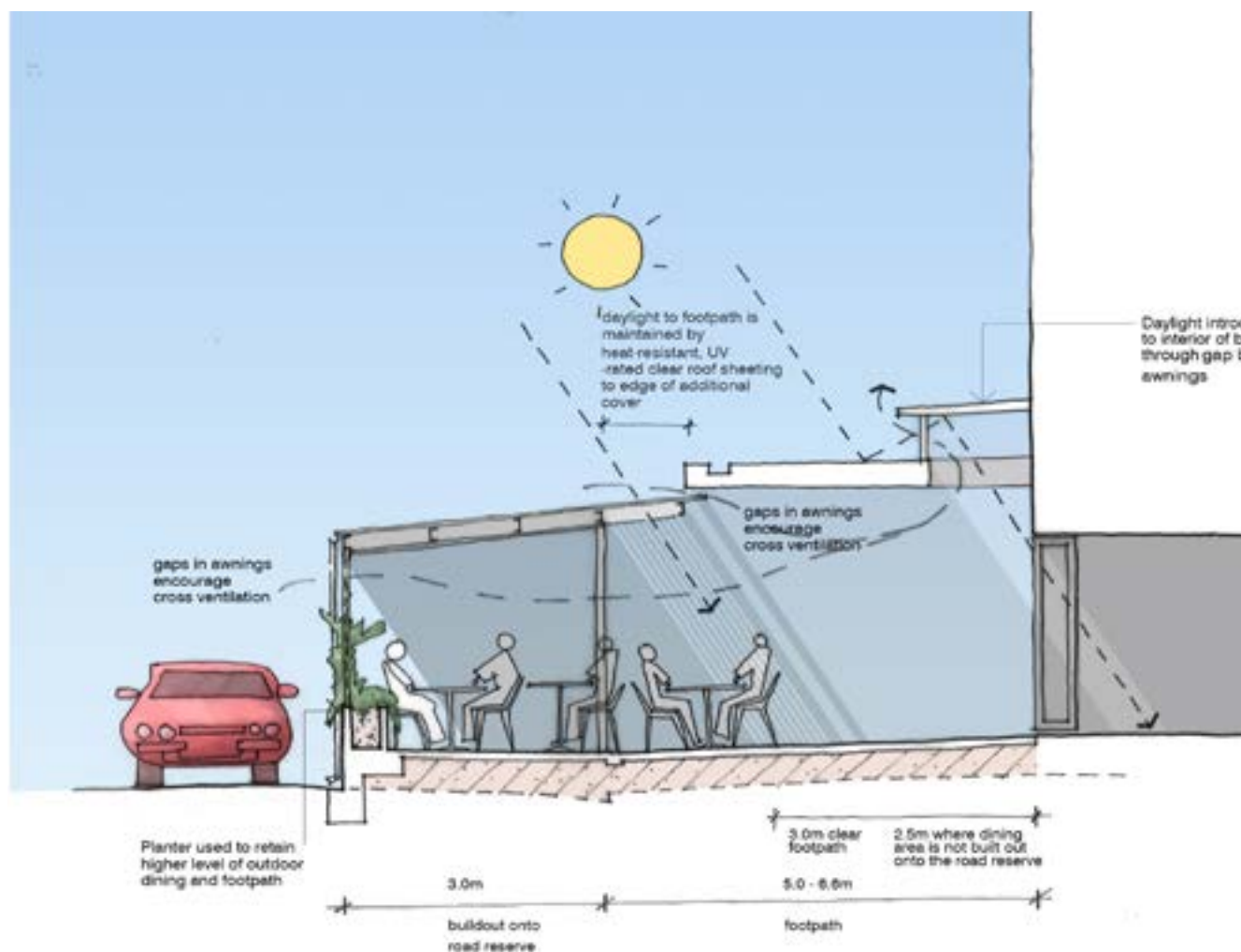
The level of the dining area built out into the road reserve is continuous with the existing footpath level to ensure accessibility for all.

The new dining area floor falls towards a storm water grate at the edge of the existing footpath. The higher level of the road is managed by a retaining planter at the edge of the dining area





CAIRNS ESPLANADE

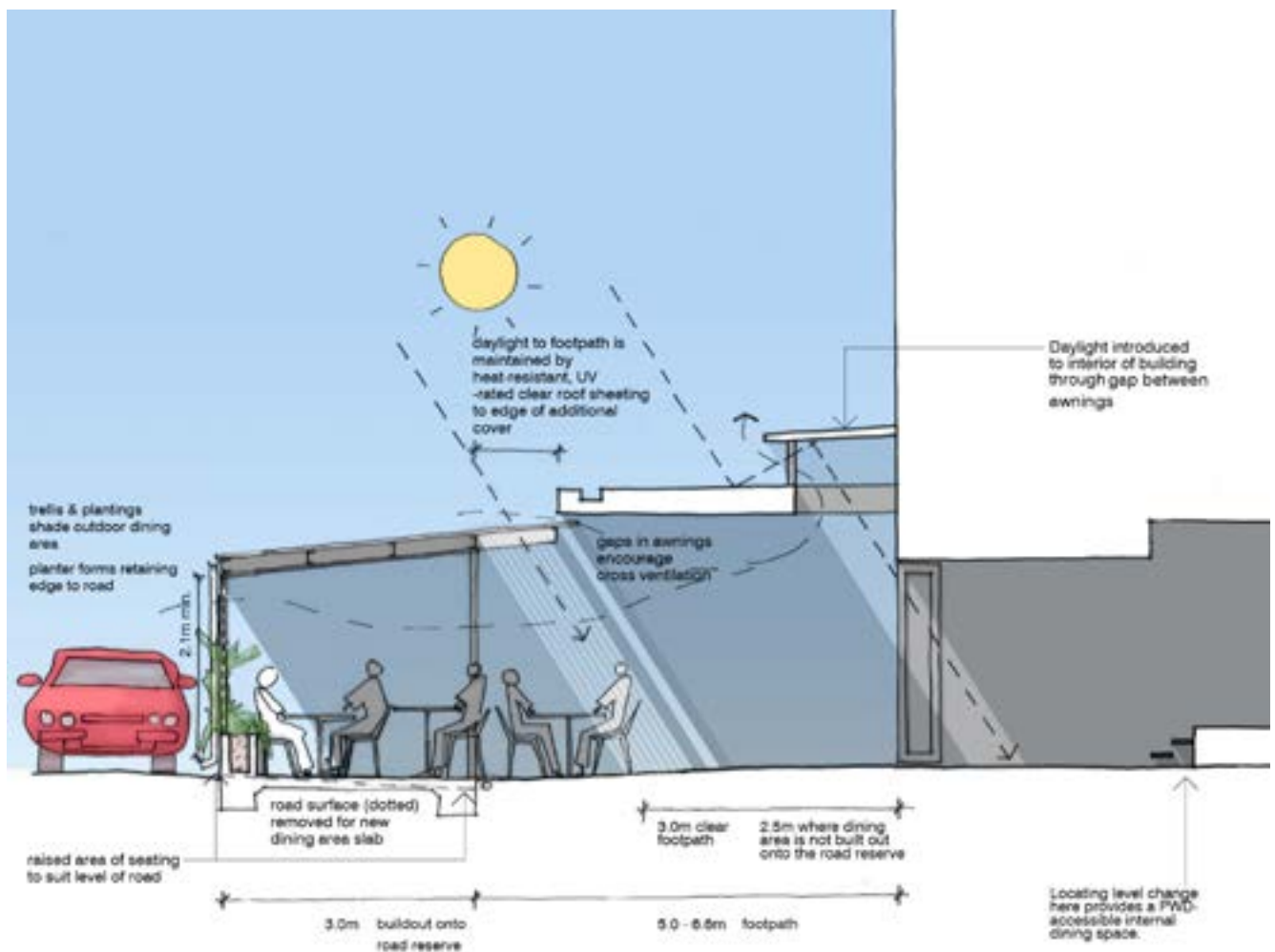


Outdoor Dining Existing Footpath Level

Response to common issue:

How do we provide outdoor dining?

The variety of footpath and building levels along the Esplanade mean that detailed design is required for each area of outdoor dining built into the road reserve. The Master Plan proposes that dining areas built into the road reserve should be at footpath level. Where the road level is higher than the dining area the road is retained by a low planter on the street side. (Refer to figure 22) Where the footpath and outdoor dining areas are above road level a planter retains the footpath and dining area along the road edge. Level changes must be made with AS1428 compliant ramps.



Outdoor Dining Footpath Level Higher than Road



PIER PARK



2.9 Pier Park

Why this is important

The current Pier car park is a convenient and well used facility with access to key destination within the City Centre; however it is also on a piece of land that has tremendous potential value as a significant public open space. .

The longer-term vision for this area sees the creation of new parkland and green space on the site of the Pier car park, without removing the car park itself. This can be achieved by creating a half level below ground car park that is terraced over with a new parkland area above.



In combination with the existing park areas around, a very substantial public green space can be created in Cairns, a perfect venue for events and performances, as well as just more enjoyable green space for the City and the community. This new park can contribute to the creation of an outstanding leisure, recreation and event precinct linking the lagoon, Esplanade, Reef Fleet Terminal and Fogarty Park sound shell.

Design principles

- *The diagonal pathway through the park would be kept,*
- *The long distance coach transit interchange can be relocated with the area to be opposite the pier shopping centre, with a turn around area at the end of the access road.*
- *The option exists to create a development site on the southern edge to help fund the creation of the park.*



Response to common issue:

An elevated park can't be planted?

There are many examples of planted buildings around the world and many specialist technologies to aid the establishment of plantings on rooves.

“...an outstanding leisure, recreation and event precinct linking the lagoon, Esplanade, Reef Fleet Terminal and Fogarty Park sound shell.”

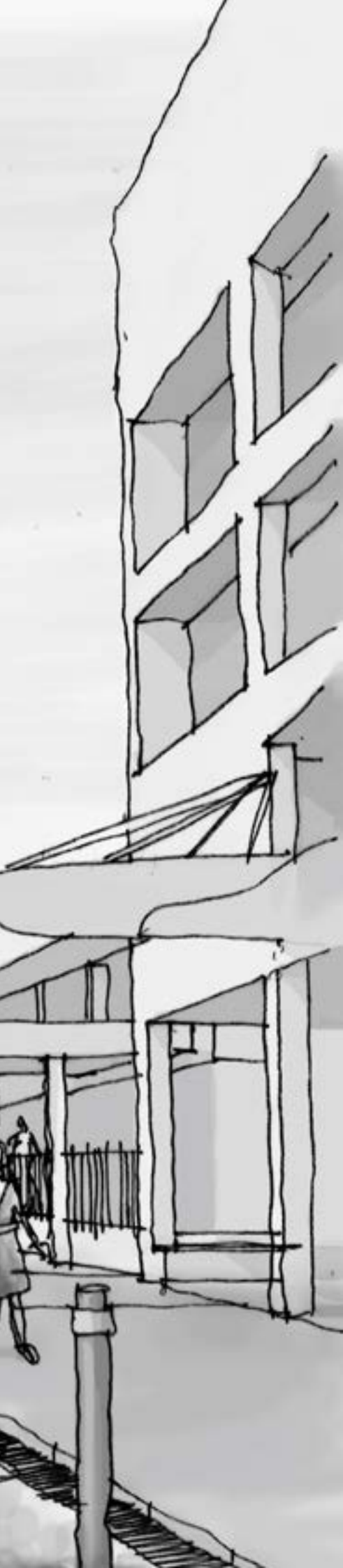
Above - Examples of elevated parks from New York and Paris

Indicative cross section through the Pier Park









3

URBAN DESIGN ELEMENTS



3.0 URBAN DESIGN ELEMENTS





What are the main urban design elements within the Cairns City Centre?

- Planting Design
 - » *Street trees*
 - » *Understorey planting*
- City Centre Paving
 - » *Paving Design*
 - » *Special Treatments*
 - » *Mid-Block Crossings*
 - » *Street Corners*
- Furniture Suite
 - » *Signage*
 - » *Bench Seat*
 - » *Drinks Fountains*
 - » *Bins*
 - » *Cycle Racks*
 - » *Bollards*
 - » *Tree Grills and Grates*
 - » *Public Shelters*
- Lighting
 - » *Light poles*
 - » *Feature lighting*
 - » *Under awning light poles*
- Storm water and flood immunity
 - » *Street levels*
 - » *Disabilities access*
- Awnings and structures
 - » *Outdoor dining*
 - » *Awnings and structures*

For details on typical streetscape layouts and cross sections refer to **Section 2.0: Urban Structure.**

“We need to support and nurture the special physical characteristics of Cairns that make it unlike any other place in Australia.”



PLANTING DESIGN

3.1 Planting Design

Why this is important

Planting is seen as a defining feature of the Cairns City Centre, building on the impressive stands of large canopy trees which have become 'iconic' to the city. The master plan proposes to greatly increase the quality and quantity of green shaded and sheltered spaces which are within the City Centre, forming a network of 'green spines'.

Planting is seen as the point of difference upon which the city centre can build to best demonstrate exemplary 'tropical urbanism'.

Design principles

- *Green and lush with emphasis on foliage*
- *Urban and non-domestic in scale (ie not "gardenesque")*
- *Use native Australian and endemic Cairns species where possible*
- *Consider maintenance, water requirements, availability of mature tree specimens or time to grow these to maturity*
- *Simple repetitive palette for maximum impact, with mass planting more in scale with urban streetscape*
- *Understorey planting should be sufficiently dense to cover all the planting beds with an emphasis on texture, imitating the rainforest floor.*
- *Ficus microcarpa var. Hillii (Hill's Fig) will be used throughout the city centre as the preferred median tree.*
- *The minimum number of street trees in a long block is five.*
- *The minimum number of street trees in a short block is three.*
- *Each tree would need to occupy, as a minimum, a 6x6m bed. (refer to Tree Guards FNQROC Development Manual Standard Drawing S4100 follow links @ www.fnqroc.qld.gov.au)*

For details of typical cross sections and specific street themes refer to **Section 2.0: Urban Structure**.

Response to common issues:

What will happen to the existing trees?

It is essential to keep the successful shady median planting with substantial trees that already exist within the City Centre. Creating a City of large street trees will take time and the existing successes need to be built on to establish a strong overall effect. Existing trees will need to be properly assessed by a qualified arborist to establish the vigour and health of each specimen to evaluate their value to future planting schemes.

Will we have trees planted in the footpaths and edge of road?

Street awnings are very important for providing continuous all weather protection to our city streets, and in most areas awnings are close to the edge of the kerb, making it impossible to plant shade trees against the kerb. The road shoulder is similarly constrained by encroaching awnings and by the limited space for planter beds, and conflicts with services and parking. For this reason the master plan concentrates on providing more significant shade trees within the median where these constraints are not an issue. However where awnings are not a feature, as to the frontage of historic buildings such as the Court House on Abbott Street or the Adelaide Steamship Building on Lake Street street trees are to be provided and protected with tree grates and grills.

Will median fig trees attract Flying Foxes and damage services?

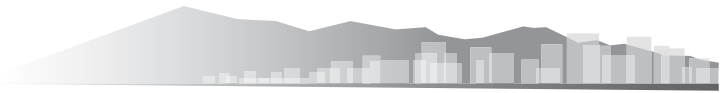
Any large tree with a reasonable density in the canopy has the potential to attract Flying Foxes. There are however many large Ficus and Mango specimens in the central Cairns area that have not attracted bat colonies and council will use whatever means are available to discourage new roosts. Where we have an existing established colony fig trees will be planted at a safe distance to discourage the potential migration of bats.

Hill's Fig does not produce aerial roots unlike many of the species and is tolerant of heavy pruning both above and below the ground allowing the canopy and roots to be managed and controlled. In addition these figs will only be planted in large garden beds in the centre of the road away from footpaths and services. In addition root barrier technologies will be used to further discourage root invasion.



- | | |
|---|--|
|  Gateway edges
(defined by green edges and gardens) |  'City Heart' - Special Treatment |
|  Refer to Sub-Arterial Street Section |  Grafton Street - Special Treatment |
|  Refer to Collector Street Section |  Parkland |





RAINFOREST CITY TREE LIST

3.2 The Rainforest City Centre Tree List

The rainforest city centre 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 median Avenue Planting
- Interesting flowering tropical trees to use as special feature planting
- Trees suitable for special planting areas outside of median (footpaths without awnings such as in front of the Court House or Cairns Regional Art Gallery).

Trees have been selected because they;

- *Contribute to the city centre'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. Where exotic species have been provided these have been selected because of their contribution to the "tropical resort" character of the city centre.

Design Guidelines

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.*
- *Advanced tree stock is preferred for median planting and a minimum of 100 litre tree stock is to be used in all other areas.*
- *100 litre tree stock must be at least 2.5 metres high (installed) and have a clear trunk of at least 1.8 metres from the top of the adjoining finished level to the lowest branch*
- *Planting should not obstruct sight lines. A maximum height of 750mm is recommended for all shrubs and plantings in areas where visibility across the street or footpath is required.*





RAINFOREST CITY CENTRE TREE LIST

3.2.1 Rainforest City Centre Tree List

Rainforest City Centre Tree List		TYPE	SIZE	FORM	CORE	FOOTPATH	MEDIAN	FEATURE	GATEWAY	PARK
Botanical Name	Common Name									
1.	Barringtonia asiatica <i>Beach Barringtonia</i>	Ne	S-M	E	X		X	X		X
2.	Barringtonia calyptrata <i>Cassowary Pine</i>	Ne	M-L	D					X	X
3.	Barringtonia racemosa <i>Powder Puff Tree</i>	Ne	M-L	E					X	X
4.	Brachychiton velutinosus <i>Pink Flame Tree</i>	N	S-M	D				X		X
5.	Cupaniopsis anacardioides <i>Tuckeroo</i>	Ne	S	E	X	X				
6.	Ficus microcarpa var. Hilli <i>Hill's Fig</i>	N	L	E	X		X			X
7.	Plumeria obtusa <i>Evergreen Frangipani</i>	Et	S-M	E	X			X		X
8.	Magnolia champaca <i>Joy Perfume Tree</i>	E	M	E				X	X	X
9.	Mimusops elengi <i>Mimusops</i>	Ne	L	E			X	X	X	X
10.	Syzygium bamagense <i>Bamaga Satinash</i>	N	L	E			X		X	X
11.	Xanthostemon chrysanthus <i>Golden Penda</i>	Ne	M	E	X	X	X	X		X

TYPE	SIZE	FORM	CORE	FOOTPATH	MEDIAN	FEATURE	GATEWAY
N Native to Australia	S Small	E Evergreen	For general use throughout the city centre	For use as footpath trees	For use in city centre medians	For use as feature planting	For use in city centre gateways
E Exotic (from outside Australia)	M Medium	D Deciduous					
e Endemic to Cairns area	L Large						
t Traditional/Historical use in Cairns							



Artist impression of *Ficus microcarpa* var. *Hillii* installed as median tree planting within city centre



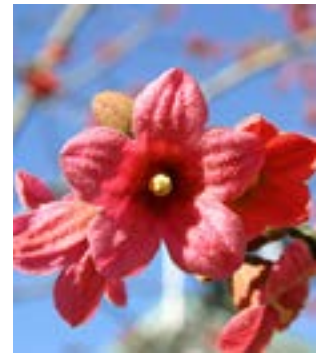
1. *Barringtonia asiatica*



2. *Barringtonia calyptrata*



3. *Barringtonia racemosa*



4. *Brachychiton velutinosus*



5. *Cupaniopsis anacardioides*



6. *Ficus microcarpa* var. *Hillii*



7. *Magnolia champaca*



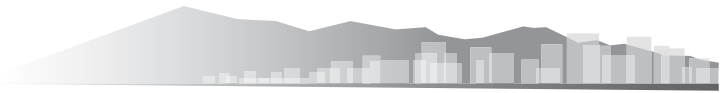
8. *Mimusops elengi*



9. *Syzygium bamagense*



10. *Xanthostemon chrysanthus*



RAINFOREST CITY CENTRE PLANT LIST

3.3 Rainforest City Centre Plant List

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;

- *General City Centre Planting (understorey and intersection planting).*
- *Feature Planting (for special areas).*
- *Gateway Planting (for key city centre gateways).*
- *General Planting for commercial and residential developments.*

Note; the following list is intended as a guide to city centre planting, other plants may be considered if they comply with the list below;

Plants have been selected because they;

- *Can be readily propagated.*
- *Are adapted to the particular climatic and environmental conditions of the Cairns City Centre.*
- *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 City Centre.*
- *Contribute to the "rainforest" character of the city centre.*

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 may interfere with vehicular sight lines.*
- *No plants are to be on the current register of 'declared weeds'; for full listings follow the links @ www.dpi.qld.gov.au*





RAINFOREST CITY CENTRE PLANT LIST

3.3.1 Rainforest City Centre Palm and Pandan List

Rainforest City Centre Palm and Pandan List		TYPE	SIZE	FORM	CORE	SPECIAL	UNDERSTOREY	FEATURE	GATEWAY	PARK
Botanical Name	Common Name									
1.	Chamaedorea seifritzii <i>Bamboo Palm</i>	E	2.5	E	X					X
2.	Licuala ramsayii <i>Licuala Palm</i>	Ne	2.5	E	X	X	X		X	X
3.	Livistonia decora (formerly decipiens) <i>Weeping Cabbage Palm</i>	Ne	15	E	X	X		X		X
4.	Pandanus tectorius <i>Screw Pine</i>	Ne	2-10	E	X					X
5.	Pandanus Baptistii "Gold Stripe" <i>Gold Stripe Pandan</i>	E	2	E	X					X
6.	Ptychosperma elegans <i>Solitaire Palm</i>	Ne	12	E	X	X		X		X
7.	Ptychosperma macarthurii <i>Macarthur Palm</i>	Ne	8	E	X			X	X	X

TYPE	HEIGHT	FORM	CORE	SPECIAL	UNDERSTOREY	FEATURE	GATEWAY
N Native to Australia E Exotic (from outside Australia) e Endemic to Cairns area t Traditional/Historical use in Cairns	Mature plant height in metres	E Evergreen D Deciduous	For general use throughout the city centre	For use as special treatments	For use as understorey planting in city centre	For use as feature planting	For use in city centre gateways



1. *Chamaedorea seifritzii*



2. *Licuala ramsayii*



3. *Livistonia decora*



4. *Pandanus tectorius*



5. *Pandanus baptistii* "Golden Stripe"



6. *Ptychosperma elegans*



7. *Ptychosperma macarthurii*

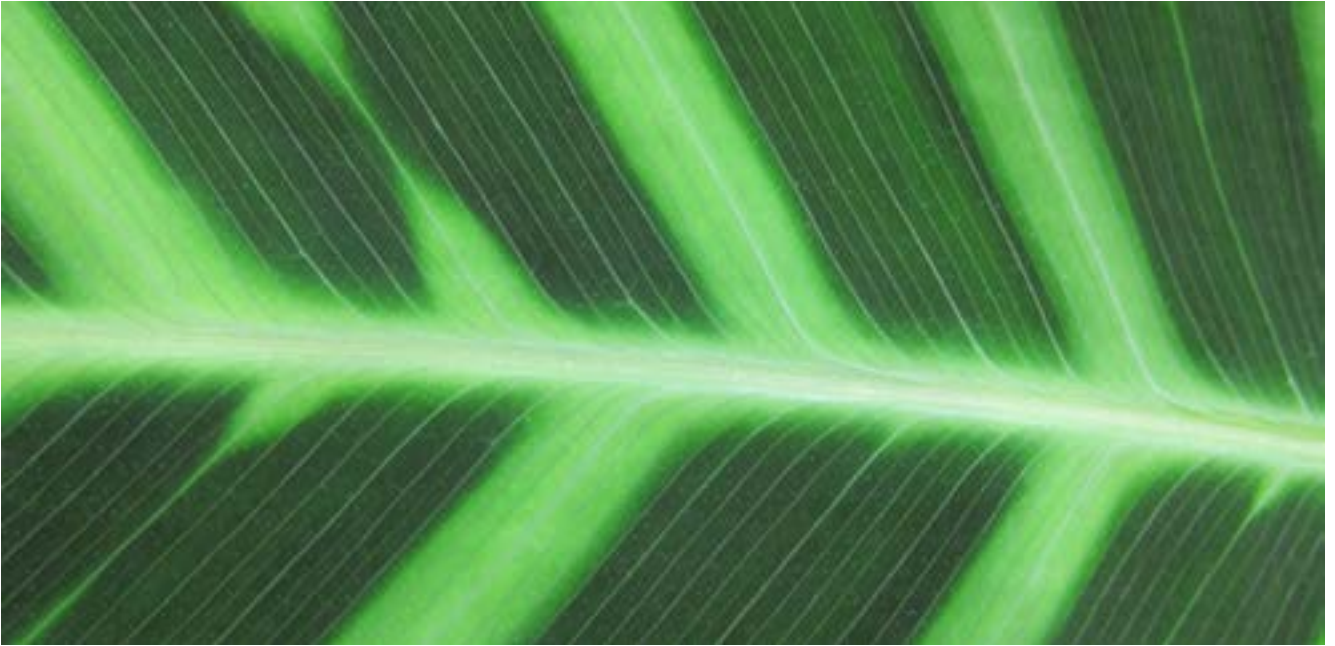


RAINFOREST CITY CENTRE PLANT LIST

3.3.2 Rainforest City Centre Plant List

Rainforest City Centre Plant List		TYPE	HEIGHT	CORE	SPECIAL	UNDERSTOREY	GROUND-COVER	GATEWAY	PARK
Botanical Name	Common Name								
8.	Acalypha wilkensis var. "Java Pink"	E	2000		X				X
9.	Alocasia brisbanensis <i>Elephants Ear</i>	Ne	2000		X				X
10.	Alpinia caerulea <i>Native Ginger</i>	Ne	3000	X		X			X
11.	Alpinia sanderae <i>White Stripe Ginger</i>	Ne	1800	X		X			X
12.	Alpinia variegata "Zerumbet" <i>Variegated Shell Ginger</i>	Ne	1800	X		X			X
13.	Arachis pintoii <i>Pinto Peanut</i>	E					X	X	
14.	Aralia seiboldii	Ne			X				
15.	Asplenium nidus <i>Bird's Nest Fern</i>	Ne	300	X		X			X
16.	Cordyline cannifolia <i>Native Cordyline</i>	Ne	1800		X	X			X
17.	Cordyline terminalis var. "Red Sister"	E	1800		X	X			X
18.	Crinum pedunculatum <i>Swamp Lily</i>	Ne	1200		X				X
19.	Ficus deltoidea <i>Mistletoe Fig (locally known as Ficus Okinawensis)</i>	Et		X		X			X

TYPE	HEIGHT	CORE	SPECIAL	UNDERSTOREY	GROUND COVER	GATEWAY	PARK
N Native to Australia E Exotic (from outside Australia) e Endemic to Cairns area t Traditional/Historical use in Cairns	Mature plant height in millimetres	For general use throughout the city centre	As a supplement to general planting in special areas only	For use under trees in city medians and islands	For use where low groundcover is required (sight lines)	For use in city centre gateways	For use in city centre parks and open spaces



8. *Acalypha wilkensis*
var. "Java Pink"



9. *Alocasia brisbanensis*



10. *Alpinia Caerulea*



11. *Alpinia sanderae*



12. *Alpinia variegata* "Zerumbet"



13. *Arachis pintoii*



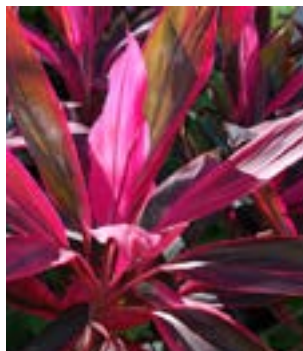
14. *Aralia seiboldii*



15. *Asplenium nidus*



16. *Cordyline cannifolia*



17. *Cordyline terminalis* var.
"Red Sister"



18. *Crinum pedunculatum*



19. *Ficus deltoidea*



RAINFOREST CITY CENTRE PLANT LIST

Rainforest City Centre Plant List		TYPE	HEIGHT	CORE	SPECIAL	UNDERSTOREY	GROUND- COVER	GATEWAY	PARK
Botanical Name	Common Name								
20.	Gardenia augusta var. “Forever More”	E	1200		X				X
21.	Gardenia psidioides “Glennie River”	Ne	600		X		X		X
22.	Gardenia radicans <i>Prostrate Gardenia</i>	E	300	X			X		X
23.	Gardenia scabrella <i>Native Gardenia</i>	Ne							X
24.	Hymenocallis littoralis <i>Narrow Leaf Spider Lily</i>	Et	1200	X		X			X
25.	Hymenocallis littoralis var. “Thai Gold”	Et	1200	X		X			X
26.	Ixora coccinea “Kamboons Pride”	E	3000	X		X			X
27.	Ixora coccinea “Malay Pink”	E	2000	X		X			X
28.	Ixora coccinea “Aussie Gold”	E			X				X
29.	Ixora coccinea “Sunkist”	E	1000		X		X		X
30.	Ixora coccinea “Twilight Gold”	E	1200		X				X
31.	Ixora williamsii <i>Red Ixora</i>	E	2000		X				X

TYPE	HEIGHT	CORE	SPECIAL	UNDERSTOREY	GROUND COVER	GATEWAY	PARK
N Native to Australia	Mature plant height in mm	For general use throughout the city centre	As a supplement to general planting in special areas only	For use under trees in city medians and islands	For use where low groundcover is required (sight lines)	For use in city centre gateways	For use in city centre parks and open spaces
E Exotic (from outside Australia)							
e Endemic to Cairns area							
t Traditional/Historical use in Cairns							



20. *Gardenia augusta* var. "Forever More"



21. *Gardenia psidioides* "Glennie River"



22. *Gardenia radicans*



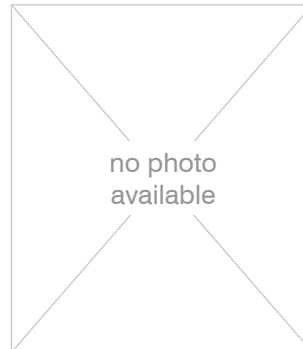
23. *Gardenia scabrella*



24. *Hymenocallis littoralis*



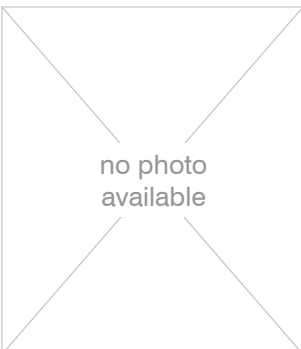
25. *Hymenocallis littoralis* var. "Thai Gold"



26. *Ixora coccinea* "Kampoons Pride"



27. *Ixora coccinea* "Malay Pink"



28. *Ixora coccinea* var "Aussie Gold"



29. *Ixora coccinea* var "Sunkist"



30. *Ixora coccinea* var. "Twilight Gold"



31. *Ixora williamsii*



RAINFOREST CITY

CENTRE PLANT LIST

Rainforest City Centre Plant List		TYPE	HEIGHT	CORE	SPECIAL	UNDERSTOREY	GROUND-COVER	GATEWAY	PARK
Botanical Name	Common Name								
32.	Mandevilla splendens in variety (climbing plant) <i>Brazilian Jasmine</i>	E	3000		X				
33.	Melastoma affine <i>Native Lassandra</i>	Ne			X				X
34.	Ophiopogon jaburan <i>Giant Mondo</i>	Et	300	X		X			X
35.	Philodendron “Congo”	E			X				X
36.	Philodendron selloum var “Xanadu”	E	750	X		X			X
37.	Philodendron williamsii	E	1000	X		X			X
38.	Philodendron selloum <i>Tree Philodendron</i>	E	2000	X		X			X
39.	Phyllanthus multiflorus <i>Water Fall Plant</i>	Ne	1600	X		X	X		X
40.	Proiphys amboiensis <i>Cardwell lily</i>	Ne	300		X				X
41.	Scaevola taccada <i>Sea Lettuce</i>	E	2000		X				X
42.	Tapeinochilus ananassae <i>Backscratcher Ginger</i>	Ne			X				X
43.	Zephranthes candida <i>Rain Lily</i>	Et	250	X		X	X		X
44.	Zephranthes citrina <i>Tropical Crocus</i>	Et	250	X		X	X		X

TYPE	HEIGHT	CORE	SPECIAL	UNDERSTOREY	GROUND COVER	GATEWAY	PARK
N Native to Australia E Exotic (from outside Australia) e Endemic to Cairns area t Traditional/Historical use in Cairns	Mature plant height in mm	For general use throughout the city centre	As a supplement to general planting in special areas only	For use under trees in city medians and islands	For use where low groundcover is required (sight lines)	For use in city centre gateways	For use in city centre parks and open spaces



32. *Mandevilla splendens* in variety



33. *Melastoma affine*



34. *Ophiopogon jaburan*



35. *Philodendron* "Congo"



36. *Philodendron selloum* var "Xanadu"



37. *Philodendron selloum williamsii*



38. *Philodendron selloum*



39. *Phyllanthus multiflorus*



40. *Proiphys amboiensis*



41. *Scaevola taccada*



42. *Tapeinochilus ananassae*



43. *Zephranthes candida*



44. *Zephranthes citrina*



CITY CENTRE PAVING

3.4 City Centre Paving

Why this is important

Over the years the 'floor' of the City Centre has become a mixture of different pavers, patterns, standards and treatments. There have been some recent projects that are quite successful in their treatments, however local business owners have clearly expressed a need and a desire for a more consistent floor of a character that suits Australia's best Regional City Centre.

It is desirable to use a surface that is not associated with a domestic setting, but which is clearly 'urban and public'. From a practical point of view, the new floor needs to minimise trip hazards, provide a robust, safe finish which is easy to clean, particularly in food environments. Sustainability is another key consideration; specifying materials that can be sourced locally and which provide longevity and the least environmental impact in production or transportation.

The Master Plan proposes a new, consistent surface treatment that is rolled out throughout all City Centre Streets. The surface treatment reflects the successes of the Cairns Waterfront, including the Esplanade, Cruise Terminal and Marina. These areas have made great use of in-situ concrete, incorporating local aggregates with a variety of stencilled finishes. In situ concrete has the advantage of being very adaptable to local conditions and is relatively easy to lay, minimising construction impacts on city centre businesses.

The general surface of the cityscape footpaths will be punctuated by special feature paving that will be used to articulate street corners, mid-block crossings laneway and arcade entrances, street furniture and signage. This offers a more relaxed and adaptive approach to the design of city streets which will result in a casual and varied design, articulated by the random flow of patterns across the cityscape.

Response to common issue

How will we treat access covers?

To avoid the proliferation of unsightly and varied underground service access lids, Cairns Regional Council will require that all pits are covered using a concrete infill type (either round or rectangular depending on access type). These covers can be filled to match the main footpath; or special feature paving if this applies. This approach will ensure that paving treatments are not interrupted by an array of access covers and minimise their impact on the visual amenity of city centre paving.

How will we treat access driveways?

Access driveways can be readily integrated with the main footpath treatment by increasing the strength of concrete to accommodate vehicle traffic. This means that surface treatments can be more or less continuous across the city centre, allowing a more consistent design approach.

What happens when we need access to underground services?

To facilitate access to underground services the cities' footpaths will be composed of individual panels of in situ concrete. When access to underground services is required entire panels can be removed and replaced once works are completed. This will avoid the patching effect often caused by such works and maintain the integrity of footpath treatments.



-  City Centre Paving
-  The City Heart Paving - Porphyry
-  The City Heart - Porphyry





CITY CENTRE PAVING

City Centre - concrete



Water Washed
Coloured In-situ Cast
Concrete

3.4.1 City Centre Paving - General Use

Reinforced concrete colour Ghost Gum/Finish Water Washed Heavy

- General use across the city centre to provide a simple and consistent floor base
- Easy to clean, durable and simple to install
- To be laid in segments (typically 2.5m x 3m) to facilitate access to underground services
- Footpath widths vary but are typically 5m wide
- For the purposes of footpath design the footpath is divided lengthwise into two sections (typically 2.5m in width)
 - » Defines pedestrian access which must be maintained at a minimum of 2.5m from building line
 - » Defines area of outdoor dining (which must be clear of pedestrian access - see above)
 - » Defines design lines as guide to special feature paving (refer illustration below)

For full specifications refer to tables 3.4.

City Heart - porphyry



Australian Porphyry
(Finish varies)

3.4.2 City Heart

Australian porphyry pavers laid in stretcher bond over a re-enforced concrete base

- Porphyry pavers are to be used along Shields Street between Abbott and Grafton Streets (refer table opposite and diagram on page 93).
- Footpath design will be determined as part of future design work for the city centre.
- Finishes will vary according to use and requirement.
- Porphyry is a locally sourced stone product from Herberton on the Tablelands.
- Porphyry has excellent properties and is ideal for high traffic areas, it is very tough, easy to clean and very hard wearing making it suitable for shared space areas where vehicle traffic is to be allowed.

	Rainforest City Centre Footpath Treatments		PORPHYRY	CONCRETE
	Street Name			
1.	Esplanade	between Aplin and Spence Street		X
2.	Abbott Street	between Aplin and Spence Street		X
3.	Lake Street	between Aplin and Spence Street	X	X
4.	Lake Street	between Spence and Wharf Street		X
5.	Grafton Street	between Aplin and Wharf Street		X
6.	Sheridan Street	between Aplin and Wharf Street		X
7.	McLeod Street	between Aplin and Wharf Street		X
8.	Aplin Street	between McLeod Street and Esplanade		X
9.	Shields Street	between Grafton and Abbott Street	X	
10.	Shields Street	between McLeod and Grafton	X	X
11.	Shields Street	between Abbott Street and Esplanade	X	X
12.	Spence Street	between Bunda Street and Esplanade		X
13.	Hartley Street (East)	between Railway and Lake Street		X
14.	Wharf Street	between Sheridan and Esplanade		X



CITY CENTRE PAVING

City Centre - Main Paving



Concrete Colour Ghost Gum - Finish Water Washed Light

3.4.3 City Centre - Main Paving

Reinforced concrete colour Ghost Gum/Finish Water Washed Light

- General use across the city centre to provide a simple and consistent floor base
- Easy to clean, durable and simple to install
- To be laid in segments (typically 2.5m x 3m) to facilitate access to underground services
- Footpath widths vary but are typically 5m wide
- For the purposes of footpath design the footpath is divided lengthwise into two sections (typically 2.5m in width)
 - » Defines pedestrian access which must be maintained at a minimum of 2.5m from building line
 - » Defines area of outdoor dining (which must be clear of pedestrian access - see above)
 - » Defines design lines as guide to special feature paving (refer illustration below)

3.4.4 For full specifications refer to tables 3.4.

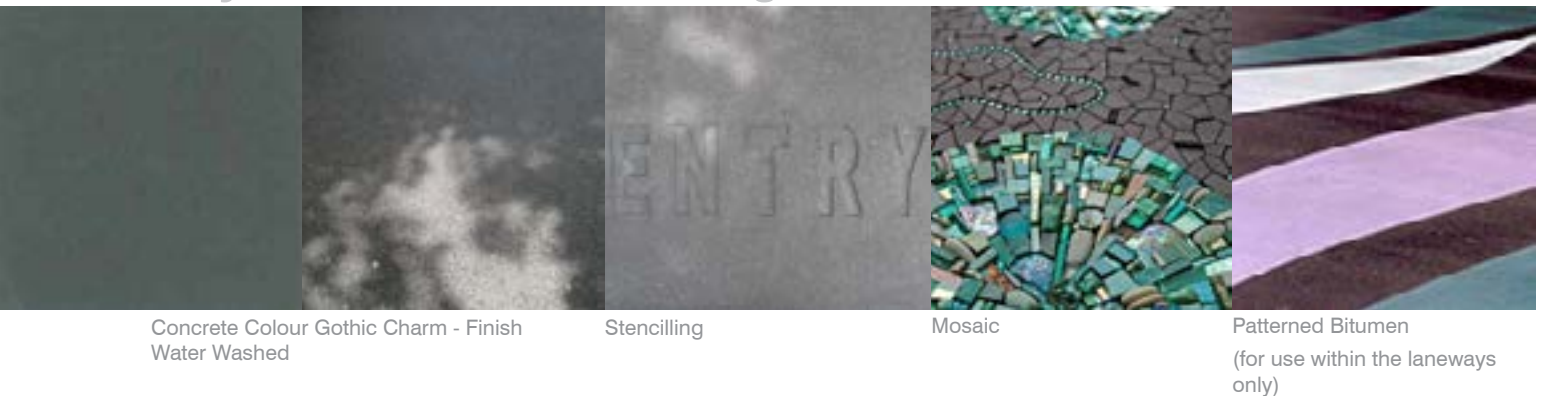
Below: illustration of typical paving configurations

This demonstrates how feature paving is to be used to accentuate street furniture, mid-block crossings, street corners, laneways and arcade entrances. For more information on layouts refer to 3.10 Street Furniture Layouts on pages 116-119.

NOTE: each street will have a unique design based on the components shown, stencils are to be adapted to each site in relation to infrastructure requirements and local history and features of interest.



City Centre Feature Paving



3.4.5 City Centre - Feature Paving

Reinforced concrete colour Gothic Charm/Finish Water Washed Light Stencilled Concrete, Mosaic and Patterned Bitumen

Feature Paving is only to be used in association with the following;

- *Laneway and Arcade Entrances*
- *Street corners (refer to pages 80-81)*
- *Street furniture (refer to pages 116-119)*
- *Highly active outdoor dining areas (in particular take-away areas)*
- *Sites of historic significance (in association with historic buildings/features)*
- *Stencilling can be used to enhance feature paving with text/patterns/graphics related to local history/settings*
- *Mosaic - Laneway Entrances only (must be suitable for heavy traffic areas ie. non-slip) to introduce text/patterns/images related to laneway character, usage, artwork or history)*
- *Patterned/Coloured Bitumen - to be used within alleys and laneways only (original artwork)*

For further details and full specifications refer to 3.4.3, 3.4.4 and tables 3.4.





MID-BLOCK CROSSINGS & STREET CORNERS

3.4.6 Mid-Block Crossings

Marking the arcade and laneway entrances can also be an important function of the pavers, and this can be done with special mosaic or concrete infill panels which provide the name of the arcade and an element about its history/use or what it connects to – this can be done as part of a broader public art project.

Response to common issue:

How do we treat entrances and thresholds?

Generally entrances and thresholds will be treated as a continuation of the main paving, with the exception of the Laneways and Arcades. Refer to mid-block crossing (below) for further details. Mid-block crossings are to be installed to provide access across the street and between city streets via the numerous city arcades. Crossing points should be located to maximise pedestrian movement across the city centre and facilitate access to the arcades.

- *Mid-block crossings will include a build out from the kerb and channel*
 - » *Provides a safe refuge for pedestrians*
 - » *Incorporation of a formalised crossing will depend on local conditions*
 - » *Narrows the crossing lane*
 - » *Ensures parking does not interfere with pedestrian safety*
 - » *Provide drainage grates with wheelchair and heel friendly gaps*
- *Feature Paving is to be used in association with street furniture*
- *Stencilling can be used to introduce;*
 - » *Text ie. street name or historic/cultural reference*
 - » *A graphic based on local cultural or historic references (simple silhouettes)*
- *Mid-block crossings will include garden beds to provide local city gardens;*
 - » *Planting should comply with CPTED principles*
 - » *Articulate and enhance pedestrian crossing points*
 - » *Provide a “tropical garden” context for street furniture*
- *Tactile ground surface indicators (TGSIs) are to be supplied and installed in accordance with Australian Standard 1428.4.1:2009 & AS 1428.1-2009*



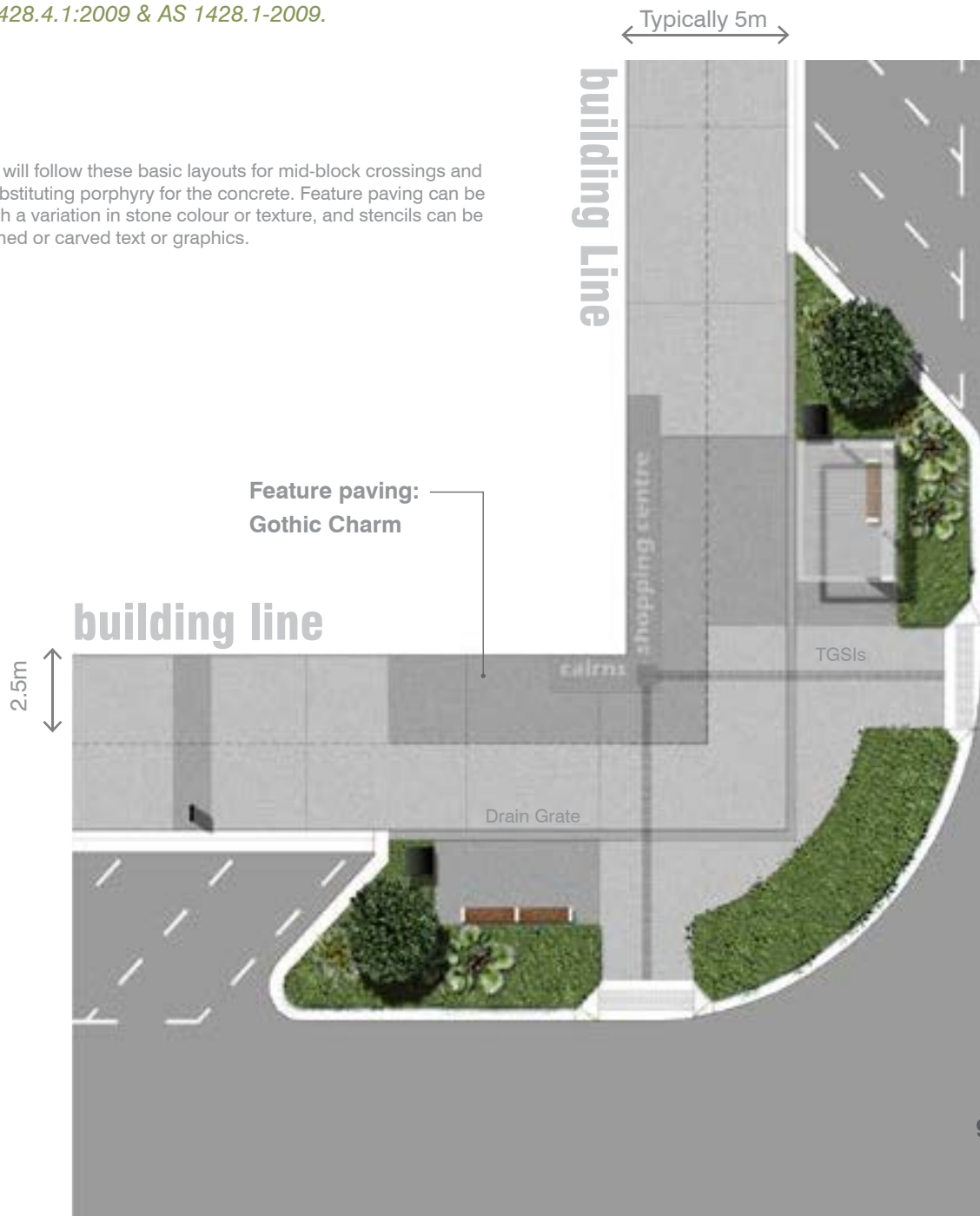
3.4.7 Street Corners

City Centre Street Corners are to be treated as a continuation of the broader streetscape.

- *Street corners will include a build out from the kerb and channel*
 - » Provides a safe refuge for pedestrians
 - » Narrows the crossing lane
 - » Ensures parking does not interfere with pedestrian safety
 - » Drainage channels are covered with a heel safe, wheelchair friendly anti-slip grates
- *Feature Paving is to be used in association with street furniture and to articulate the street corner*
- *Stencilling can be used to introduce;*
 - » Text ie. street name or historic/cultural reference
 - » Graphic based on local cultural or historic references
- *Street corners will include or adapt existing garden beds to provide local city gardens;*
 - » Planting should comply with CPTED principles
 - » Articulate and enhance pedestrian crossing points
 - » Provide a tropical garden context for street furniture
 - » Planting should not obstruct traffic signals
- *Tactile ground surface indicators (TGSIs) are to be supplied and installed in accordance with Australian standard 1428.4.1:2009 & AS 1428.1-2009.*

Note:

City Heart Paving will follow these basic layouts for mid-block crossings and street corners, substituting porphyry for the concrete. Feature paving can be expressed through a variation in stone colour or texture, and stencils can be replaced with etched or carved text or graphics.





PAVING SPECIFICATIONS

3.4.8 Paving Specifications

City Centre - Main Paving	
Supplier	Local supplier
Material	Concrete 32MPA
Style	Cairns City Centre Pavement (refer to Lake Street between Aplin and Spence for example of preferred finish)
Finish	Water Washed Light
Colour	Ghost Gum (CCS) or equivalent
Strength	Compressive strength: 40Mpa (28 days). Transverse strength: min. 2Mpa.
Abrasion	Maximum characteristic abrasion resistance: 3.5cm ³ .
Mesh	65mm Mesh
Cement	Comply with AS 3972-1991 Portland and Blended Cements.
Aggregate	Comply with AS 2758.1 – 1985 Concrete Aggregates.
Installation	In situ concrete (100mm thick) in accordance with FNQROC
Slab Dimensions	Slabs are to be typically 2500mm x 3000mm x 100mm Note 2500mm wide to a maximum of 300mm
Expansion Joints	Connolly Key Joint (or equivalent) Note: self adhesive 'abelflex' expansion foam is to be used where required, with 'sikaflex' to finished joints (colour to match concrete). Slabs have been designed to avoid the use of contraction joints.
Admixtures	Comply with AS 1478 – 1992 Chemical Admixtures for Concrete.
Sealant	Coloro 22 UVA Sealer - Same Day Sealant as primer finished with Coloro 24 UVA Sealer - Hard Seal to be applied in accordance with the manufacturer's recommendations - Matt Finish
Tactile Ground Surface Indicators (TGSi)	
Supplier	Safespot or equivalent (Australian supplier preferred)
Material	316 Marine Grade Stainless Steel
Finish	Mill Finish
Type	NERO
Standards	Designed and manufactured to meet the AS/NZ 1428.4 Standards and conform to CSIRO and ATTAR slip testing
Installation	In accordance with AS/NZ 1428.4

Note:

Porphyry paving is to be laid in stretcher bond over a concrete base. Paver dimension, texture and colours will be decided as part of future project delivery.

Driveways	
Supplier	Local supplier
Material	Concrete 32MPA
Style	Cairns City Centre Driveways
Finish	Water Washed (refer to Lake Street between Aplin and Spence for example of preferred finish)
Colour	Ghost Gum or Gothic Charm (CCS) or equivalent Colour can be selected based on usage and traffic volumes, in general the main footpath colour should be used to provide continuity to pedestrians
Strength	Compressive strength: 40Mpa (28 days). Transverse strength: min. 2Mpa.
Abrasion	Maximum characteristic abrasion resistance: 3.5cm ³ .
Mesh	65mm Mesh
Cement	Comply with AS 3972-1991 Portland and Blended Cements.
Aggregate	Comply with AS 2758.1 – 1985 Concrete Aggregates.
Admixtures	Comply with AS 1478 – 1992 Chemical Admixtures for Concrete.
Sealant	Coloro 22 UVA Sealer - Same Day Sealant as primer finished with Coloro 24 UVA Sealer - Hard Seal to be applied in accordance with the manufacturer's recommendations - Matt Finish
Installation	Reinforced In situ concrete in accordance with FNQROC
Slab Dimensions	Varies but 150mm thick (see above)
Expansion Joints	Connolly Key Joint (or equivalent) Note: self adhesive 'abelflex' expansion foam is to be used where required, with 'sikaflex' to finished joints (colour to match concrete).
Access Covers	
Supplier	ACO or equivalent (Australian supplier preferred). Please refer to local utilities for individual access cover specifications.
Type	Urbanfil or equivalent
Finish	Stainless Steel (with infill to match surrounding footpath)
Standards	Designed and manufactured to meet the AS 3996 Class A & B loadings
Installation	In accordance with manufacturer's instructions



PAVING SPECIFICATIONS

City Centre - Feature Paving	
Supplier	Local supplier
Material	Concrete 32MPA
Style	Cairns City Centre Special Feature
Finish	Water Washed Light (refer to Lake Street between Aplin and Spence for example of preferred finish)
Colour	CCS Gothic Charm or equivalent
Strength	Compressive strength: 40Mpa (28 days). Transverse strength: min. 2Mpa.
Abrasion	Maximum characteristic abrasion resistance: 3.5cm ³ .
Mesh	65mm Mesh
Cement	Comply with AS 3972-1991 Portland and Blended Cements.
Aggregate	Comply with AS 2758.1 – 1985 Concrete Aggregates.
Installation	In situ concrete (100mm thick) in accordance with FNQROC
Slab Dimensions	Slabs dimensions will vary in accordance with usage, typically slabs shall be no larger than 3000mm x 2500mm
Expansion Joints	Connolly Key Joint (or equivalent) Note: self adhesive 'abelflex' expansion foam is to be used where required, with 'sika-flex' to finished joints (colour to match concrete). Slabs have been designed to avoid the use of contraction joints.
Admixtures	Comply with AS 1478 – 1992 Chemical Admixtures for Concrete.
Sealant	Coloro 22 UVA Sealer - Same Day Sealant as primer finished with Coloro 24 UVA Sealer - Hard Seal to be applied in accordance with the manufacturer's recommendations
Stenciled Concrete	
Supplier (stencil)	River Sands (CCS) or equivalent (Australian supplier preferred)
Material	Coloured Concrete (as per feature paving - see above)
Finish	Plain/Water Washed(Light/Medium/Heavy)
Colour	Gothic Charm - see above Note: other colours may be considered in special cases, but will be subject to approval by the council's landscape architect
Artwork	Artwork must be approved by the council's landscape architect prior to installation. Themes should be based on local settings, cultural and historic references.
Installation	As per manufacturer's recommendations
Stencil	Stencils will be based on street names/arcade names/special features/historic features or cultural or historic site interpretation incorporating text and simple graphics. Standard font type such as ArialB is preferred (text in lower case only) min. 100mm high (letter 't') max.300mm Note: Standard stencil treatments are <u>not</u> to be used within the city centre

Mosaic	
Supplier	Make use of local artists/mosaicist or specialist services
Material	Varies (see comments below)
Artwork	Artwork to be approved by council's landscape architect prior to installation
Installation	Mosaics to be constructed in trays/panels - suggest use of standard infill access covers (ACO or equivalent - refer to access covers specifications). These come in a variety of sizes and will enable mosaics to be made off-site and allow individual panels to be removed and/or changed as required.
Finish	Must be slip resistant and meet all current AS Standards with no protruding sharp edges or trip hazards - suggest use of dark cement grout to reduce discoloration due to dirt.
Patterned Bitumen	
Supplier	StreetPrint TM & StreetBond TM or equivalent (Australian supplier preferred)
Material	Decorative stamped asphalt and coloured asphalt coatings
Artwork	Artwork to be approved by council's landscape architect prior to installation
Installation	Must be carried out by a qualified installer
Finish	Must be slip resistant and meet all current AS Standards
Kerb-side steps	
Supplier	Local supplier
Material	Concrete
Finish	Plain
Colour	Ghost Gum to match footpath
Installation	Reinforced cast in situ
Step Dimensions	Riser to be 200mm, tread minimum of 300mm
Expansion Joints	To be placed at four metre (4m) intervals along length of steps. Connolly Key Joint (or equivalent) with self adhesive 'abelflex' expansion foam as required with 'sika-flex' to finished joints (colour to match concrete) Note: no contraction joints
Drainage Grates	
Supplier	ACO or equivalent (Australian supplier preferred)
Style	KlassicDrain TM or equivalent
Material	Stainless Steel
Finish	Healguard anti slip (disable
Installation	As per manufacturer's recommendations
Drain Dimensions	Typically 300mm wide length will vary



CITY CENTRE FURNITURE

3.5 City Centre Furniture

The city centre furniture suite has been designed to provide a consistent and integrated approach to the provision of street furniture for the Cairns City Centre. Furniture has been developed as an evolution of the current furniture within the Cairns Esplanade and the Cairns Marina and Boardwalk. The intent has been to build on this existing character and develop a simple suite of furniture that is both suited to use within the city's urban environment and that also reflects our 'relaxed tropical lifestyle'.

The resulting furniture uses a simple palette of colours, materials and forms to provide a suite of components which can be used across the city centre to provide;

- Signage
- Seating
- Drinking Fountains
- Bin Enclosures
- Cycle Racks
- Bollards
- Tree grates and grills
- Public Shelters

Each of these elements has been designed to compliment the other and each component can be used either as a single installation or as part of a collective installation. Opportunities for additional wayfinding and place identification have been considered as part of the broader furniture strategy and has been included as a design feature for several furniture elements.

The street furniture strategy comprises a suite of parts that are adapted to the various conditions which exist within the city centre. This suite combines 'off the shelf' items (bench seats, litter bins, and signage) and items constructed on site from prefabricated parts (shelters and planter beds) which can be installed as single items or used in combinations to offer a variety of approaches to the provision of street furniture depending on local conditions and constraints.

The suite of urban elements provide opportunities to be integrated with on-street planting (existing or future) reinforcing the experience of a 'Green City Centre'. The strategy for furniture, is to combine and integrate seating with lighting and on-street plantings featuring a range of tropical plants where this is possible.

Furniture has been designed with local manufacture as a key concern. Australian materials and local fabrication and manufacture have been considered as an essential element of the design process. This strategy offers a more sustainable approach to the provision of street furniture and provides Cairns with a unique product

This suite of parts should also be used as the basis for bus shelters and other structures throughout the City Centre to clearly reinforce a strong and clear City Centre identity.





SIGNAGE SUITE

3.6 Signage Suite

The street grid of Cairns and the mountain vistas in three of four directions can be confusing to visitors, and appropriate signage is essential to a tourism-based City such as Cairns. To this end a suite of signs has been proposed for use across the city centre;

Wayfinding Signage

A hierarchical suite of wayfinding signage is needed to:

- Establish an identity for the City Centre.
- Improve orientation and navigability across the site.
- Identify key features and places of interest within the site.

Four types of signage have been identified;

- Blade Sign (Primary City Centre Wayfinding map sign with removable poster/info panel to rear)
- Variations on the above (for special applications)
 - » *Pedestal Sign*
 - » *Trellis Sign*
 - » *Signage panel (associated with shelters)*

Information Signage

- City Centre Car Park Spaces (offering real time parking information about availability and capacity of parking in the city centre)

Design Guidelines

- *The Blade Sign will be the primary signage type used across the city centre and will mark particular precincts and should incorporate a city map and provide directions to key features.*
 - » *Display boards with a removable cover to allow information about festivals, events or programs to be updated or replaced with current information are to be added to the reverse of blade signs.*
 - » *Signs should be made of durable, vandal resistant material, like coated metal*
 - » *Each sign should be adequately illuminated at night.*
 - » *The content of signs needs to consider that most of the people relying on these signs will have little knowledge of Cairns, and English may not be their first language*
 - » *Signs should make use of international symbols.*
 - » *Signage can be modified for interpretive material (applied to reverse or base of blade signs)*
 - » *Signs should be of an appropriate scale for the city centre, and are to be angled to face pedestrian traffic ie. at right angle to the kerb orienting map to face direction of pedestrian traffic.*
 - » *Signs should be high enough to be visible from a distance and seen amid a crowd*
- *Signage Panels are to be installed to shelters where these are to be installed (preferably at street corners and mid-block crossings). Panel Signs will provide the same information as the Blade Signs.*
- *Pedestal Signs and Trellis Signs are only to be used where there is sufficient space, primarily to be associated with city parks and open spaces.*





CITY CENTRE MAPPING

3.6.1 City Centre Mapping

Mapping has been designed to illustrate the city centre clearly and simply using a scaled plan of the over all area including the following information;

- Site facilities and specific areas of interest.
- Brief description of site facilities including opening times and contact details where appropriate.
- City Centre context including the Waterfront, Esplanade and Marina.

Location of public infrastructure;

- Public Toilets.
- Information Centres.
- Off-Street Parking Facilities.
- Play Areas.
- Bus Stops.

Information is presented in clear simple English, Chinese and Japanese (where text is provided) and supported by international symbols.

Each map will include a “you are here” symbol to further aid navigation and will have internal illumination where required.

Note:

City Centre mapping will need to be developed to meet the needs of council and key stakeholders.

sample
of city
centre
map





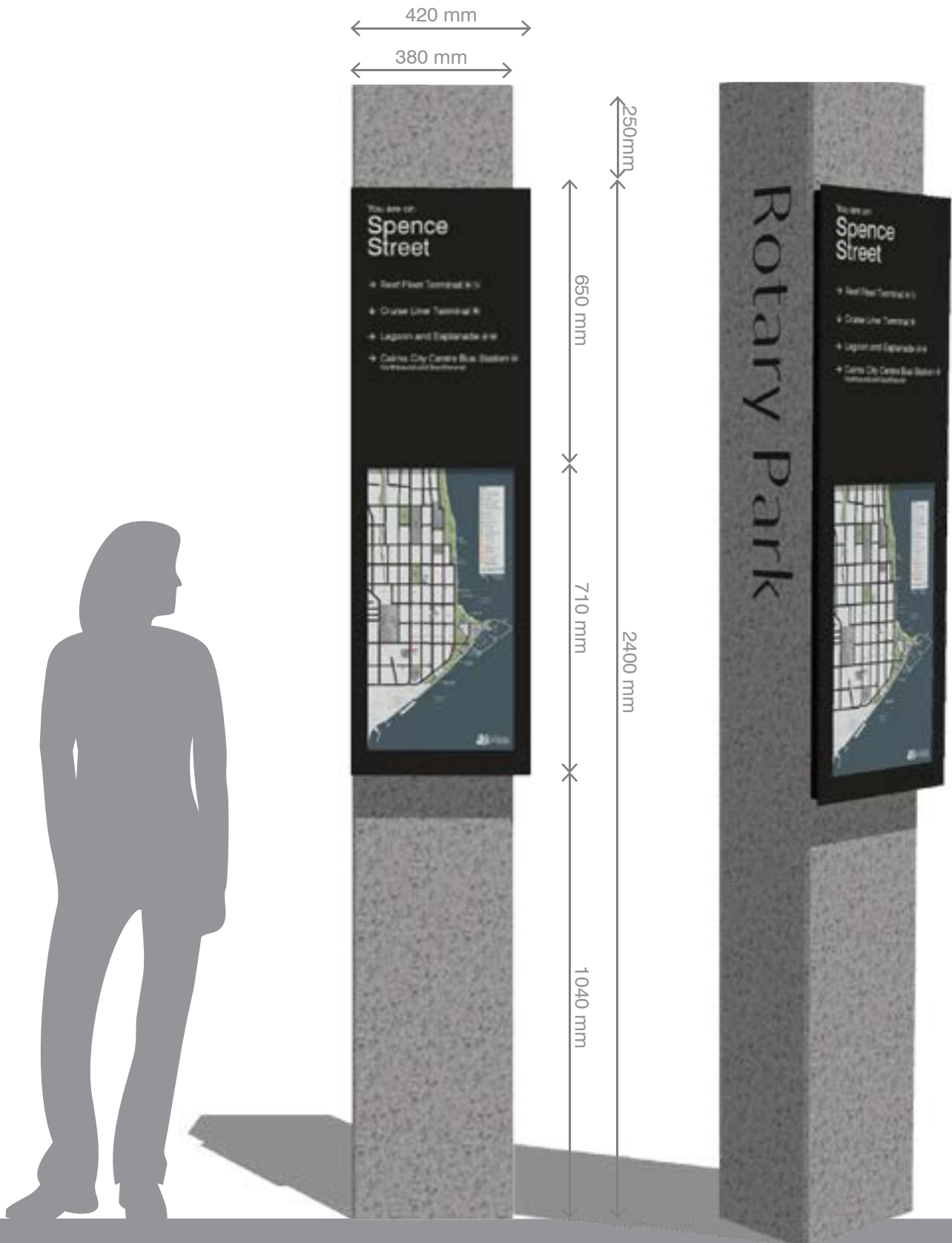
PEDESTAL SIGN

3.6.2 Pedestal Sign

The pedestal signs are intended to be used as identification signs for key city features and precincts. Adjacent to or within city parks and open space areas. The sign combines a simple monolithic concrete element with an internally illuminated signage panel. The pedestal sign has been designed to compliment the existing street furniture within the Cairns Esplanade and the Waterfront.

- A scaled site plan (refer to city centre mapping page 96).
- Directions to key facilities.
- Street/Place identification (on both concrete pedestal and signage panel).
- Information on key features and or precincts.
- Simple text and pictographic keys.
- Include international standard pictograms as best practice policy to locate site facilities such as toilets, parking and picnic areas.
- Signage panel to be internally illuminated.

Pedestal Sign	
Supplier	Locally manufactured
Type	Cairns Regional Council City Centre Pedestal Sign
Concrete Pedestal	Mass Concrete Pedestal 380mm x 300mm x 2650mm with lettering inserted to side of one/all faces
Concrete Pedestal	Smooth finish with 20mm arris edges
Sign Panel	60mm deep aluminium slimline light box with internal LED lighting and polycarbonate faces
Mapping	Digitally printed reverse graphics applied to polycarbonate face



Pedestal Sign



TRELLIS SIGN

3.7 Trellis Sign

The Trellis Sign is an adaptation of the Pedestal Sign and provides additional opportunities for planting within the city centre.

Trellis Signs can be used as stand alone features or as elements within city parks and garden beds where there is sufficient space and access to water. The Trellis Sign can also be used as a Trellis only.



Carved Detail

The street name/ place name/ historic or cultural reference can be carved into the trellis as shown.

Trellis Sign (Trellis)

Supplier	Locally manufactured
Type	Cairns Regional Council City Centre Trellis Sign (Trellis)
Timber	400mm x 400mm x 2400mm Hardwood Post
Finish	Smooth with 20mm arris edges oiled
Trellis	Stainless Steel supports and steel cables
Finish	316 marine grade stainless steel

Note: Refer to Pedestal Sign for further signage panel specifications



Trellis



BLADE SIGN

3.7.1 Blade Sign

Blade signs are intended to be used as identification and wayfinding signs for key city features and precincts. The simpler blade form can be used where the larger Pedestal Sign or the Trellis Sign are not suitable. The blade sign has been designed for general use across the city centre.

- A scaled site plan (refer to city centre mapping page 89)
- Directions to key facilities
- Street identification
- Information on key features and or precinct
- Simple text and pictographic keys.
- Include international standard pictograms as best practice policy to locate site facilities such as toilets, parking and picnic areas.
- Has removable display panel for posters (illuminated with LED's)
- Reverse of Blade Sign can be used to display interpretive material (to replace the above)

Blade Sign	
Supplier	Locally manufactured
Type	Cairns Regional Council City Centre Wayfinding Type 1 Sign
Frame Material	Aluminium structural frame, with caged concrete footing
Signage	420W x 2400H x 155D, 4mm folded aluminium blade construction with 12mm base plate. 340W x 650H hole each side for glass panel inserts. Lockable access door on one side. All visible faces to have marine grade primer, 2pak urethane top coat and 2pak urethane clear coat over cut vinyl graphics. Internal LED lighting
Panel	Digitally printed (double print) reverse graphics applied to toughened glass face
Display Panel	Illuminated LED poster display panel with vandal resistant frame and clear window
Poster Size	340mm x 650mm (finished size)

Note: Poster inserts could be also be used to display interpretive material or changing on-street art exhibitions/trails.







PANEL SIGN

3.7.2 Panel Sign (for use with City Centre Shelter)

A modified Blade Sign has been developed for use in association with the city centre shelter. These signs provide the same information as the blade signs and have been designed to be incorporated with the shelter structure.



Example of Panel Sign on city centre shelter structure

This can be used as feature of shelter - can be internally illuminated as per pedestal sign.

Panel Sign	
Supplier	Locally manufactured
Type	Cairns Regional Council City Centre Signage Panel
Frame Material	Fabricated galvanised structural frame fixed to shelter structure
Sign Panel	As per pedestal sign
Size	420mm x 80mm x 1900mm

Note: Refer to Pedestal Sign for specifications for internally illuminated signage panel.





INTERPRETIVE SIGNAGE

3.7.3 Interpretive Signage

Site interpretation is seen as a key component of the city centre master plan. Interpretive signage can be used to provide information on the city's cultural heritage, local history and communities. There are three basic interpretive signage types for use across the city centre;

- Blade Sign
 - » For use with key features only
 - » To be used where a vertical element is preferred
- Interpretive Display Panel
 - » For general use
 - » Can be adapted to affix to low walls or other infrastructure
 - » Not to be located where panels are likely to cause any obstruction to pedestrians or parked vehicles
- Integrated Interpretive Panel
 - » For special use
 - » To be used where Display Panel form will interfere with pedestrian movements.

Other modes of interpretation.

Site interpretation can also be proved by the following

- In-ground stencils applied to the footpath.
 - » Text (place names or key phrases)
 - » Graphics (related to historic, cultural or community themes).
 - » Refer to section 3.4 City Centre Paving for more details.
- Augmented reality
- Audio tours
- Artwork
- Commemorative plaques
 - » Celebrate historic buildings and features (attached to buildings)
 - » In scale with building (roughly A5-A4 in size portrait or landscape)
 - » Refer to artwork and style below



Interpretive Display Panel



Blade Sign



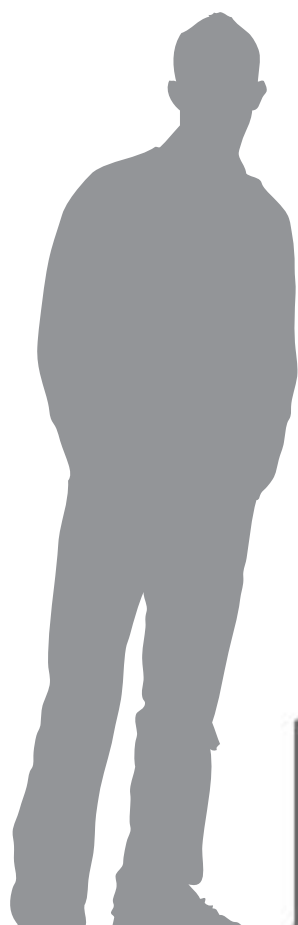
Integrated Panel



BENCH SEAT

3.7.4 Bench Seat

We envisage a simple timber slab bench seat that is a further evolution of the slab bench seat along the waterfront at the Esplanade.



Bench Seat	
Supplier	Locally manufactured
Type	Cairns Regional Council City Centre Bench Seat
Frame Material	Hot dip galvanised steel (100mm x 400mm wide x 450mm high)
Frame Finish	Powder Coated Solid Range - Interpon Vivica Palladium Silver GY184C
Seat	Solid Kwila Hardwood Timber Bench Seat or other suitable hardwood (1800mm long x 400mm wide x 150mm thick) Sourced from a Tropical Forest Trust member or other sustainable source where possible - can be made from jointed timber slabs
Timber Finish	Arris (10mm) to exposed edges, sanded and treated with three coats of 'Intergrain Ultra Deck' or equivalent

Note: Furniture to be surface mounted





WATER FOUNTAIN



Example of the existing Aquafil Water Station on Lake Street

3.7.5 Water Fountains

Water fountains should be installed at intervals throughout the city centre

- City parks and open space areas
- Mid-block crossings
- Intersections (where they do not interfere with pedestrian movement)

The **Aquafil** Refill Station is a product that has evolved from the need to combat the extravagant waste of resources generated by bottled water.

Extensive design considerations that have included consultation with public works officers and mindful reflection of negative public perception surrounding water bubblers has led to the creation of a practical product that provides a better alternative to bottled water. The Aquafil system can provide anti-bacterial/filtered drinking water to the public, offering a combination of water fountain and bottle refill facilities. This system has already been trialled on the Cairns Esplanade and has proven to be most popular.

Similar trials at Manley Beach Sydney have saved the equivalent of 250,000 plastic bottles since the project was started in August 2008. Each 1litre plastic bottle takes 200ml of oil to produce, package, transport and refrigerate. In Australia it is estimated that at least 50 million litres of oil is used each year in the manufacture and distribution of bottled water.

The Aquafil water stations can be designed to include wayfinding information to combine functions and decrease the need for additional street furniture.

The provision of water fountains will be subject to the availability of water supply and to available space and site constraints.



Water Fountain

Supplier	Arrow Alpha Industries
Fountain Type	Aquafil Drinking Fountain and Bottle Refill Station
Style	Cairns City Centre Aquafil Water Station
Finish Body	3mm thick aluminium panels with 2Pak paint finish
Finish Spout	Marine grade stainless steel 316
Size	2100mm x 310mm
Plumbing	As per the manufacturer's recommendations
Artwork	Supplied by Design Services the Cairns Regional Council

Note: Aquafil Water Stations can be provided with or without water fountain



BIN ENCLOSURES

3.7.6 Bin Enclosures

Bin enclosures are to be provided across the City Centre, located at street corners and mid-block crossings, parks and open spaces.

Bin enclosures have been designed to incorporate wayfinding information and street names. They can also be adapted to provide recycling facilities by adjusting the graphics component to suit this application and placing bins together in pairs.

Litter Bins	
Supplier	Locally manufactured
Type	Cairns Regional Council City Centre Bin Enclosure
Bin enclosure size	735mm x 810mm deep x 1335mm high (to fit a 240 litre wheeled bin)
Front/Rear Panel	2.5mm Aluminium frame (PC 'Woodland Grey' with 'Knotwood Western Red Cedar' aluminium infill)
Main Body	2.5mm Aluminium powder coat 'Woodland Grey'
Hinge	100mm Butt Hinge 316 S/S
Lock	Quarter turn lock

Note: Bin enclosure to be surface mounted.



CIGARETTE RECEPTACLES

3.7.7 Cigarette Receptacles

With smoking banned from buildings we have seen an increase in outdoor smoking. As a result there is a greater need to provide for the disposal and collection of cigarette butts. Council wants to minimise street litter and reduce the negative impacts of outdoor smoking by providing adequate cigarette receptacles across the city centre. The product below has been selected because of it's deodorising function and capacity to safely store a large quantity of unwanted butts.

Cigarette Receptacles	
Supplier	Enviropoles
Type	Gold Zinc Plated
Size	910mm x 165mm dia with 285mm dia base
Colour	Powder Coat 'Woodland Grey'
Main Body	2.5mm Aluminium powder coat 'Woodland Grey'
Hinge	100mm Butt Hinge 316 S/S
Lock	Quarter turn lock
Ash receptacle	

Note: Cigarette Receptacles have a water based deodorised storage system and are surface mounted.





CYCLE RACKS

3.7.8 Cycle Racks

Cycle racks are an important feature as they encourage the use of alternative transport, and are to be provided throughout the city centre;

- At parks and open space areas
- At mid-block crossings
- Not at intersections as these impede pedestrian movement

Cycle Racks	
Supplier	Cora www.cora.com.au (or equivalent)
Cycle Rack Type	Expo 2704/3606/4506 or 7510 (various sizes)
Style	Cora EXPO Series
Finish Body	Marine Grade Stainless Steel 316
Finish Spout_ _	Marine grade stainless steel 316 Bright Polish
Size	1110mm x 250mm
Plumbing	6mm flow of drinking water (max. water pressure 620kpa)
Mounting	Various options

Note: All Cora cycle racks are manufactured in Australia and complies with AS2890.3 and can be used to earn Green Star points.





BOLLARD

3.7.9 Bollard

Bollards are to be used to prevent and limit vehicle ingress.

Bollard	
Supplier	Leda Security Products www.ledasecurity.com.au (or equivalent)
Bollard Type	SSP 150NB
Style	Slimline Bollard Range
Finish Body	Stainless Steel 304 Polished
Size	168.3mm x 3.40/7.11/10.97 Grade 304 Stainless Steel Pipe
Removable option	SL150RA - Cast in sleeve 150NB removable
Cover Plate	SHCP150A - Sleeve and 5mm stainless steel cover plate
Reflective tape	RTV - 50mm wide reflective tape in yellow/red/white or black for sight impaired

Note: Slimline bollard range offers a range of sizes to suit different applications.







LIGHT BOLLARD

3.7.10 Light Bollard

Light Bollards are to be used to identify pedestrian crossing points or provide localised lighting to parks and streets as required

Bollard	
Supplier	WEEF Light Bollard (or equivalent)
Bollard Type	CTY 150
Style	Light Bollard Flat Top
Finish Body	Powder coated die-cast aluminium alloy with 5CE superior corrosion protection
Size	165mm dia
Colour	Grey Aluminium RAL 9007
Light Fitting	14W PL or 18W PL



Example of an existing Light Bollard on Lake Street

IN-GROUND LIGHTING

3.7.11 In-ground Lighting

Lighting is an integral component of the city centre and will be used in a range of applications. For in-ground lighting (for footpaths and median strips please refer to the table below.

In-ground lighting	
Supplier	WEEF
In-ground light plain	WEEF ETC230 M is available with non-slip cover
In-ground light RGBW	WEEF ETC140 RGBW
Light Fitting Plain	12LED 26W 3000K

Example of existing In-Ground Lighting on Lake Street





FURNITURE SUITE

TREE GUARDS

3.7.12 Tree Guards and Grills

While the planting of footpath trees is not anticipated across the city centre there will remain opportunities for tree planting within the footpath;

- Where awnings will not be installed such as the frontage to the Cairns Regional Gallery, the Court House and Cairns Central Library.
- Where footpaths abutt open space areas and parks

Footpath trees are to be planted in accordance with Standard Drawing Urban Street Tree Planting S4210-CRC FNQROC-Development Manual (follow links at www.fnqroc.qld.gov.au).

Trees in parks and open spaces should be planted in accordance with Standard Drawing Street Tree Planting S4210 FNQROC-Development Manual (follow links at www.fnqroc.qld.gov.au).

Tree Guard and Grate	
Supplier	Street Furniture Australia www.streetfurniture.com.au (or equivalent)
Tree protection type	TG6 and GR2 (square grate)
Style	Integrate System
Material	Cast Aluminium and high-strength steel posts
Finish	Powder Dulux Zeus Timberland Satin Duratec X15 9007155 or Dulux Woodland Grey
Size Grate	1190mm x 1190mm
Size Frame	1212mm x 1212mm
Mounting Tree Guard	Feet bolt fix to grate
Mounting Tree Grate	Grates bolt together and then to frame

Note: Tree grills are re-usable once trees are established.







SHELTER



3.8 Shelter

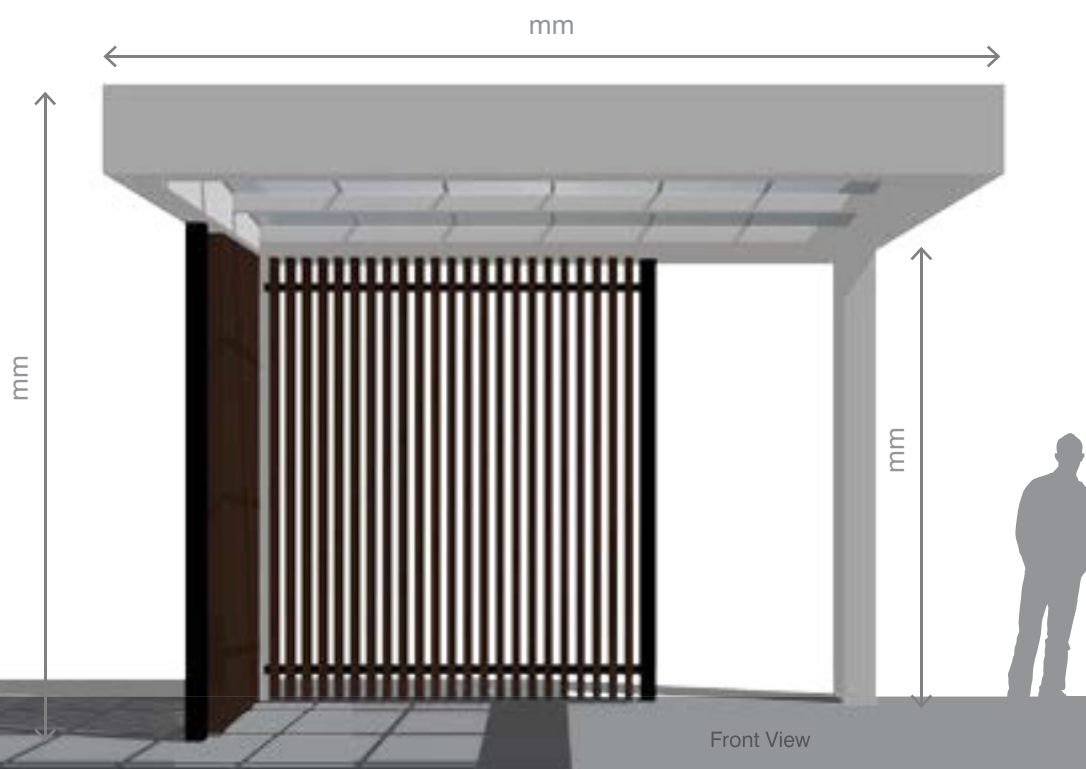
The shelter has been designed to provide covered rest areas within the street network. A clear roof allows light to penetrate to street level while offering UV and rain protection. The shelter can be adapted to suit existing awning structures and be modified to provide a pergola to allow for the growing of vines.

The shelters can be used across city streets, street corners and mid-block crossings (where space is available and site constraints will allow for their installation). Shelters have been designed to combine with the distinctive elements which make up the full furniture suite;

- Bench Seat
- Planter beds (existing or proposed)
- Panel Sign Type 1
- Trellis
- Bin Enclosure

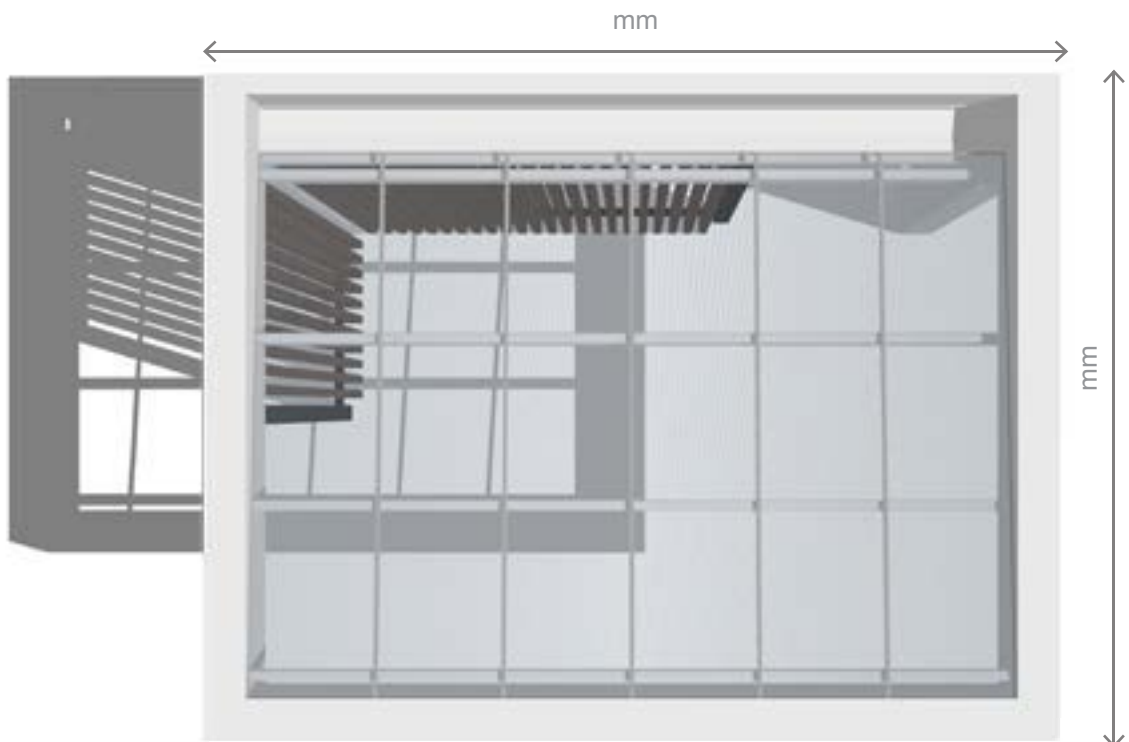
These outdoor rooms will provide meeting points across the city, small gathering places to sit, have lunch and, with Wifi access provided facilitate the use to lap tops and personal computers.

Note: shelters are only to be used to the left of pedestrian crossings, that is away from the direction of traffic flow to avoid conflicts with pedestrian crossings and sight lines





Sample of hardwood timber screen and Danpalon roofing material



Top View

Shelter

Fully self supporting structure with UV rated translucent roof in 'Danpalon'.

Roof can be adapted to provide pergola setting if required.
Structure is minimised to reduce impacts on pedestrian flows,
with roof supports to be located at kerb edge

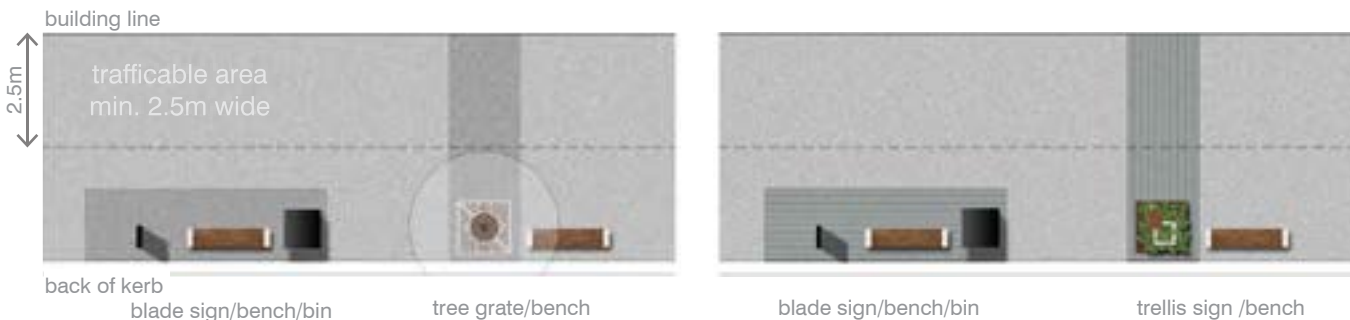
Timber screens are optional feature and can be adapted to
local conditions as required.



Axonometric View



FURNITURE SUITE

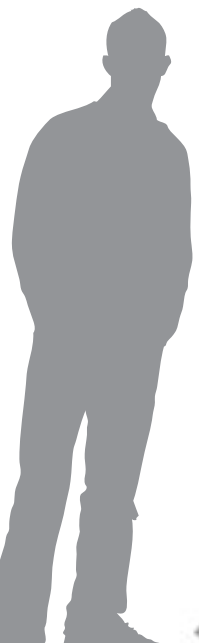


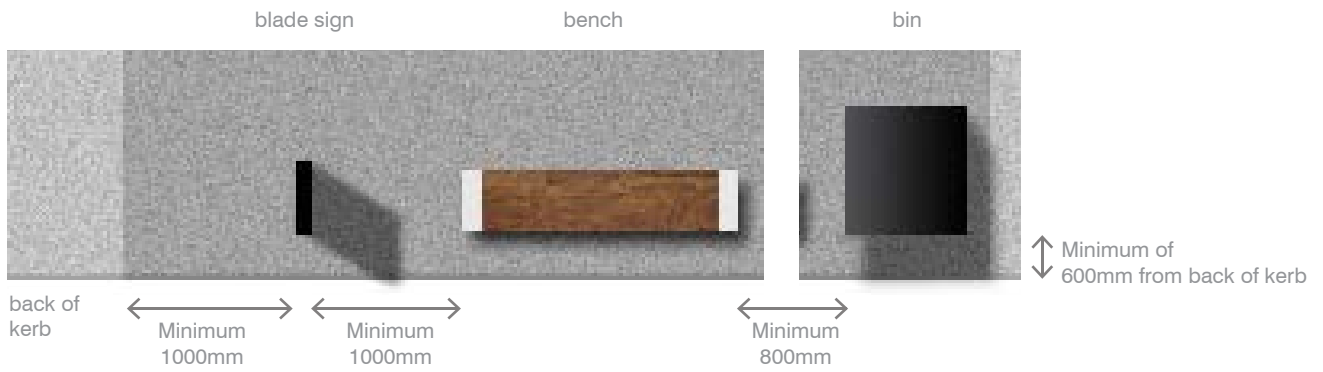
3.9 Furniture Suite

These represent the key components of the city centre street furniture suite. These can be used in different combinations and in association with the shelter to provide a variety of furniture settings.

Design Guidelines

- No street furniture is to be located within the 2.5m trafficable area (see illustration above)
- All street furniture is to be installed a minimum of 300mm from the back of kerb
- Bins are to be placed a minimum of 800mm from the edge of seats
- Signs must have a minimum of 1000mm clearance to both sides (to allow access to sign information)
- Furniture should be located to avoid conflicts with outdoor dining and car parking, and should not be situated near driveways and access/service routes
- Furniture should not adversely obstruct entrances to business premises or residential units
- Aquafil Water Stations are to be installed on main tourist routes within the city centre, where water supply is available and costs not too prohibitive (allow same clearances as for blade signs)
 - Footpath trees are to be planted where awnings are not provided, or where gaps in awnings make tree planting possible ie the frontage to the historic Cairns Court House along Abbott Street (trees will provide shade where awnings are not a feature of this historic section of town). Trees should be spaced to provide consistent cover to footpaths and will vary according to local conditions (in general footpath trees should be planted at a minimum of six metre intervals).
 - Pedestal Signs, Trellis Signs and Trellis should primarily be located adjacent to or within city parks or open spaces (these larger elements need to be located with care so as not to obstruct pedestrian movements).





Pedestal Sign

Trellis Sign

Blade Sign



FURNITURE SUITE LAYOUTS



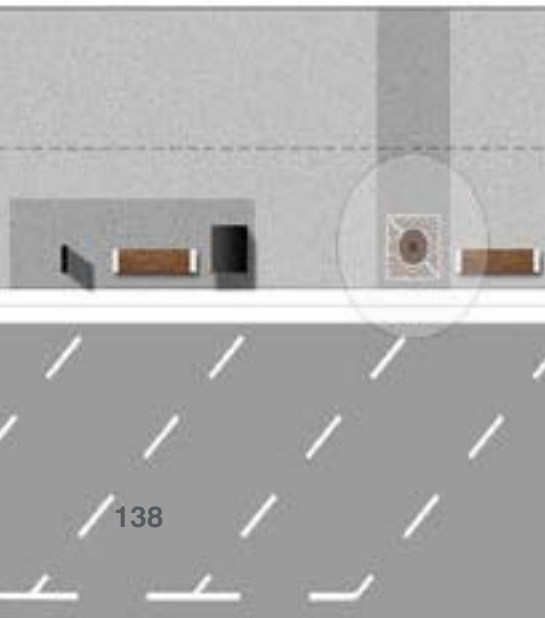
Illustration of city centre shelter with seating, bin and panel sign

seat/sign/bin

tree grate/seat

seats/bin

shelter/seat/bin/
panel sign type 1
feature paving incorporates arcade entrance



138

building line



cairns
arcade

3.10 Street Furniture Layouts

Street furniture can be installed in groups and integrated within the streetscape by the use of special feature paving. For further details of special feature paving (materials and usage) please refer to section 3.4 City Centre Paving.

The illustration below indicates some of the various combinations of furniture and paving that can be applied to the city centre. These can be used to create distinctive outdoor rooms by adding the shelter and or elements of the furniture suite (left). The association of special paving finishes and furniture elements help to create interest in the street and establish a casual rhythm that compliments the relaxed flow of pedestrians across the city.

trellis/panel sign/seat

seats/bin

shelter/seat/bin/
panel sign type 1

feature paving incorporates street name





LIGHTING

3.11 Lighting

Lighting is a very important part of creating an evening environment that invites use, occupation and enjoyment, and in Cairns there is a lot that can be achieved with improving the under awning lighting for general safety and terraces, promenading on the streets, enjoying seeing and being seen; a festive environment predominates.

The master plan envisages Cairns as a 'tropical' commercial and cultural hub with a 24 hour economy. In Tropical cities, evenings offer a respite from the day's heat, and is the time when people can come outside to enjoy more benign temperatures and cooling breezes. In cities like Rio de Janeiro, it is the time when the City comes alive; people dining on ambience, and festive/artistic lighting for creating atmosphere and a sense of celebration. This in turn can encourage more evening visitation of the City Centre and enhance the 'evening economy'.

Under-Awning Lighting

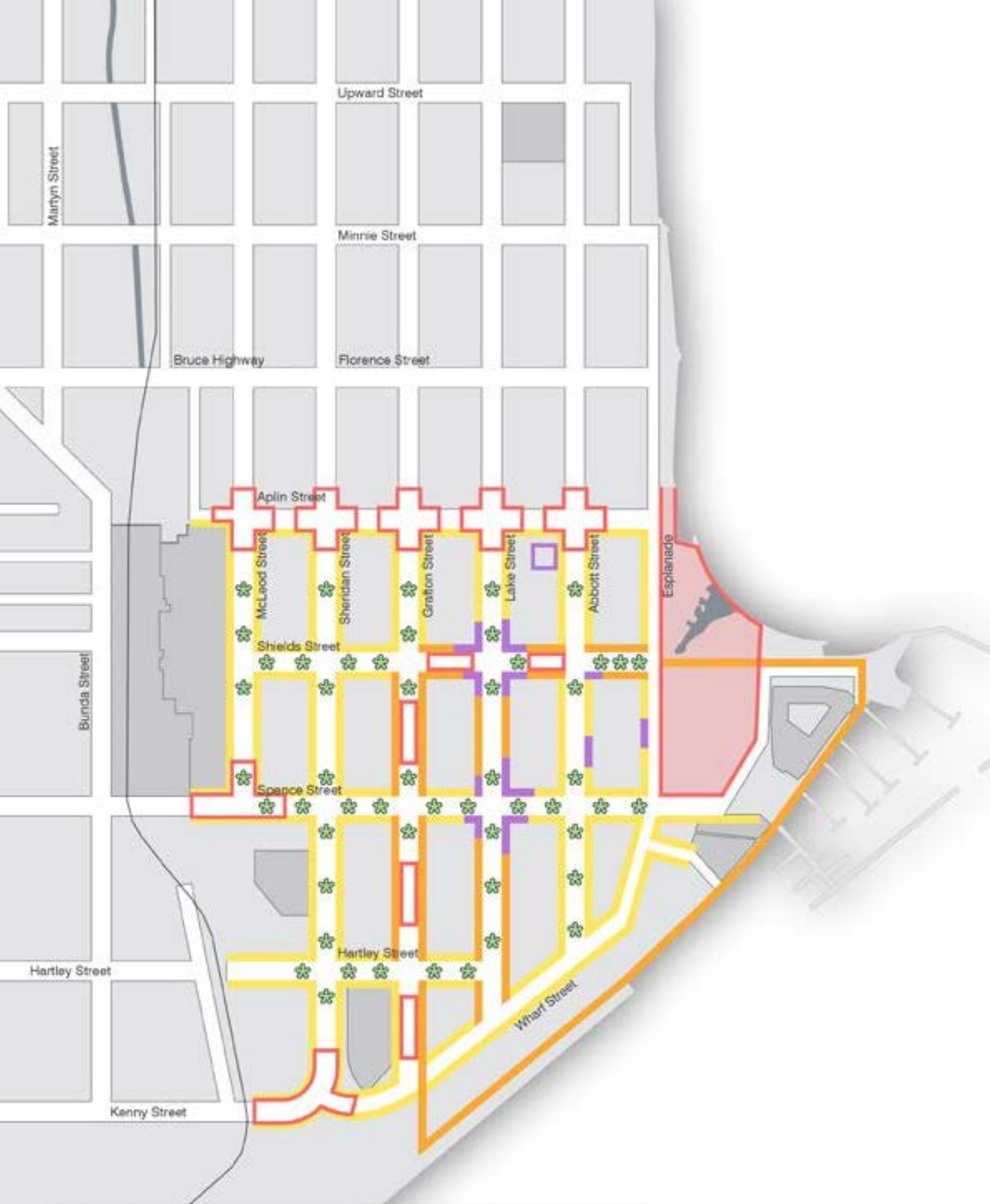
There is a dearth of under awning lighting, which means that at night many places on the street rely on lighting from within the shop – resulting in places where the street is very dingy and in some areas simply unsafe. It is not practical to provide under awning footpath lighting that is attached to the awnings as the awnings vary so greatly so a street pole will need to be introduced along the edge of the footpath, and the spacing and luminance of these fittings will need to be provided according to the Australian Standard for footpath lighting.

Festive and Feature Lighting.

The new and existing large median trees and planting can be highlighted as key features of the City Centre. Additional 'accent' lighting can also be provided at street corners, which emphasises heritage buildings on the corners, and new corner signage/seating suites. More festive lighting can also be provided through the City. Building on the existing seasonal public art program of city centre lanterns Shields and Grafton Streets will highlight and bring festivity to these key public spaces at night.

For the purposes of this document the city centre lighting has been divided into the following;

- Specific Special Lighting
- Special Street & Pedestrian Lighting
- Building lighting for Heritage Buildings
- Under-Awning Lighting
- Tree Uplighting within medians and footpaths



- | | |
|--|---|
| — Specific Special Lighting | — Under-Awning Lighting |
| — Special Street & Pedestrian Lighting | ★ Tree Uplighting |
| — Building lighting for Heritage Buildings | |



AWNINGS & STRUCTURES

3.11.1 Awnings & Structures

The street awnings throughout the City Centre are important for shelter from sun and rain, and it is important that ultimately continuous awnings are provided across the majority of the city centre. In areas where heritage values or large set backs such as at the Cairns Regional Gallery and the Cairns Library awnings are not a viable option and shade should be provided by footpath trees (for full details of footpath tree planting refer to pages 94-95).

In some cases awnings become quite deep and very dark, particularly where there is covered kerbside dining, with awning depths up to 5 or 6 metres and more. In these instances it is highly desirable to provide some day lighting through the awning along the edge of the shop/café/ business (see figure below). To avoid heat gain, this is best provided in small rectangular panels with UV rated sheeting. Up to 5% of the awning structure can incorporate day lighting in this way. Ventilation panels can also be included in these roof lights. More information regarding awnings and day lighting is provided in the following section and in appendix iv).

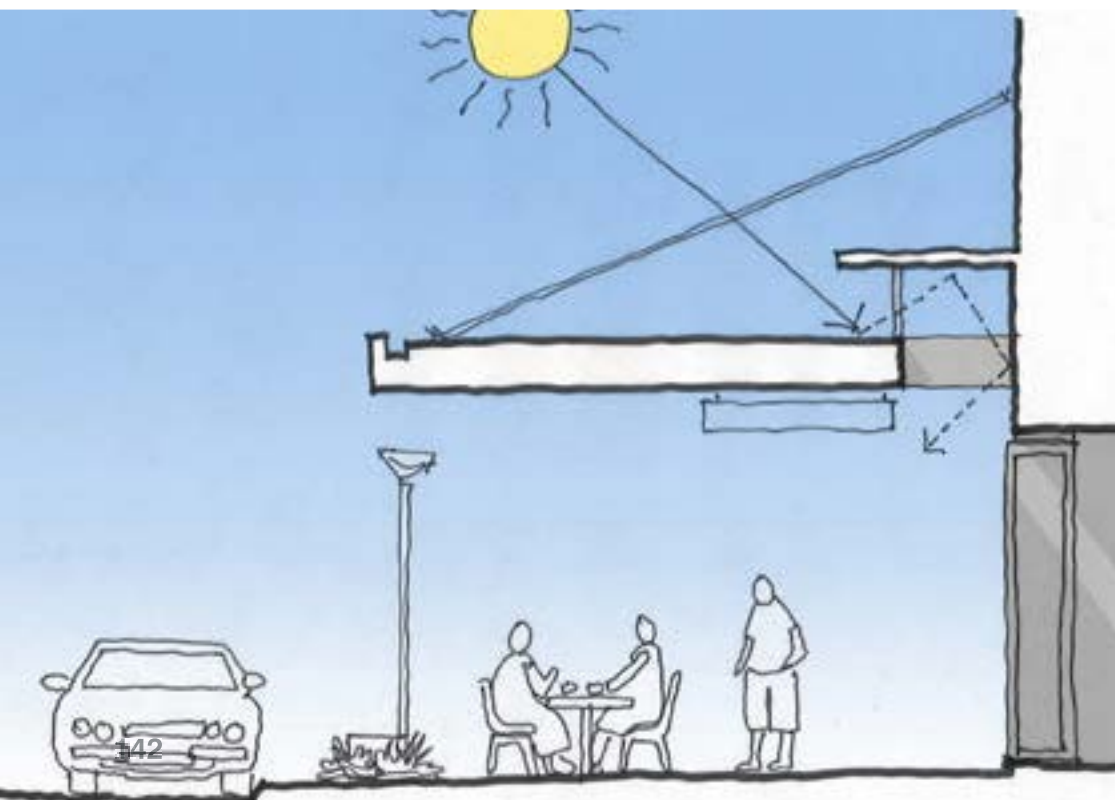
Structures such as bus shelters, seating shelters and any covered stand-alone shelters should be part of the integrated suite of elements specific to the City

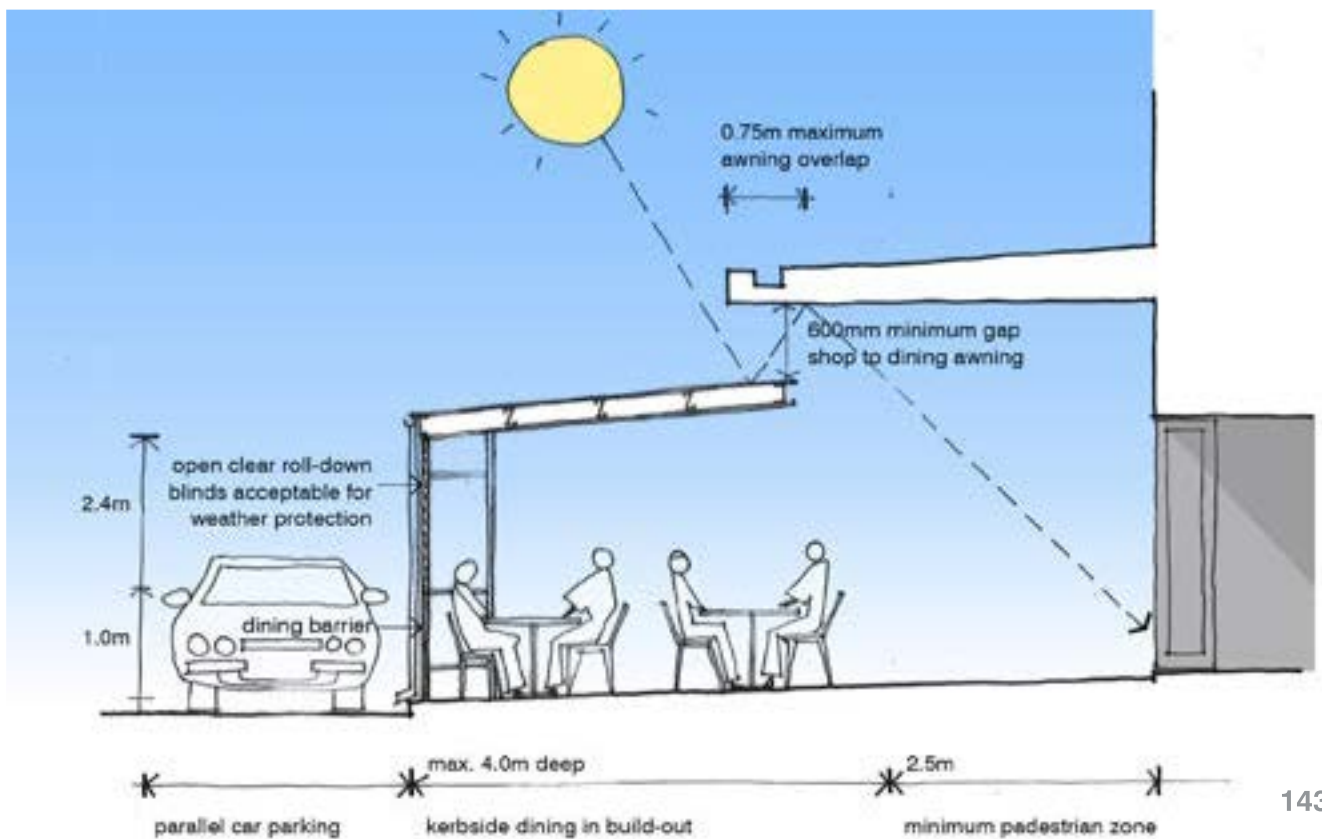
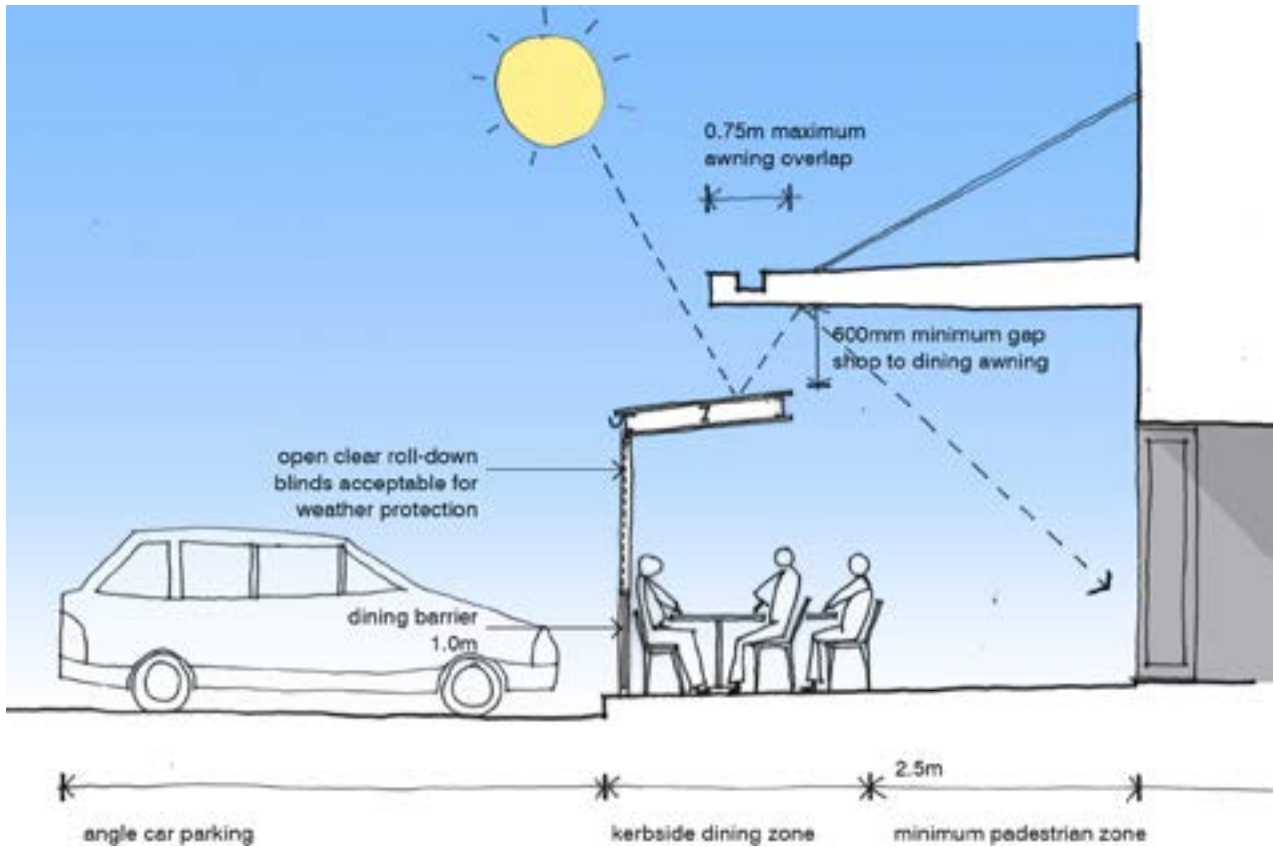
Centre. Again a simple, lightweight contemporary design, which allows landscape to dominate, is preferred. If permanent awnings are to be installed they should be consistent with the furniture suite for the city centre, a light contemporary structure integrated with dining barriers (temporary umbrellas are an acceptable alternative where awnings are not permanent).

Response to common issue

Where should we provide public toilets?

Generally it is preferred for public toilets to be included in the envelope on buildings along the street edge rather than as separate structures in the streets and parks proposed as part of the master plan. When public toilets are located in the street or medians they block views, they are difficult to access and generally detract from the open tropical landscape qualities the master plan supports. Entrances to public toilets need to be visible from the street and well lit for public safety. For convenience it is ideal if a number of public toilets can be located throughout the city at approximately 500m radii.





STORM WATER AND FLOOD

3.11.2 Storm water and Flood

The whole of Cairns City Centre is subject to Q100 flood levels, and the development of the City Centre over the years means that more recent development is at Q100 immune levels and others are not. For those developments where achieving Q100 has entailed a difference in footpath and freeboard levels of greater than 500mm, a number of solutions have been adopted which have had very poor outcomes for the quality of the street environment; in the worst of these being where a disability access ramp occupies most of the width of the footpath and severs the frontage from the street.

It is critically important that new development around the Trinity Inlet end of town creates vibrant, active, lively street environments, which means that building frontages need to engage with their streets very directly. The horizontal integration of active frontage with the street is paramount in these areas, and a gradual stepping of levels between building and street is the preferred outcome.

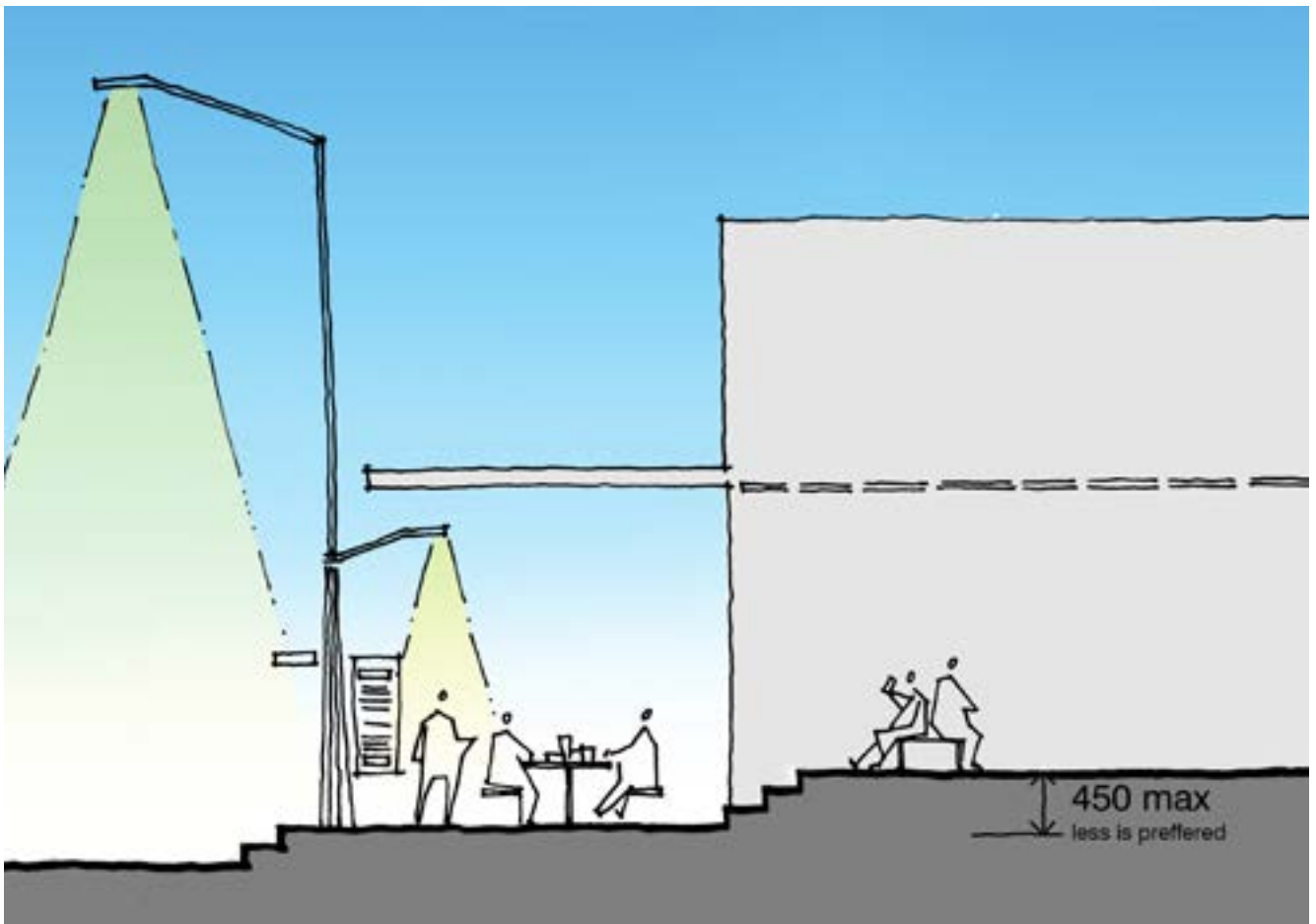
Cairns has very high seasonal rainfall, which comes in great deluges that last for days. On these days the City can become a City under water, with streets often filled to capacity, and water sheeting deeply over uncovered footpaths. The sheer volume of water that runs down the streets during the wet means that higher kerbs are generally necessary. In some instances the kerbs comprise 3 steps, a result of a combination of storm water flows and flood levels. During consultation workshops participants have commented that 'wet' and its effects on streets and public spaces are characteristic events that can be celebrated through the design of the streets.



Disability access is significant challenge and a comprehensive all-access audit would need to be done before any new paving, kerbing and channelling was designed. Providing ramps at each street corner might prove unworkable given the crossings, lack of immediate proximity of parking due to footpath build outs at corners, and increased volumes of pedestrians corners. A more workable solution might be locating PWD ramps and parking bays in the centre of each street, to provide ease of access to all business on the block.



Example of kerb-side steps.



Typical cross section showing city centre footpath level changes.



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