

## Planning Scheme Policy – Tropical Urbanism

### 1. Purpose of the planning scheme policy

- (1) The purpose of this planning scheme policy is to:
  - (a) provide context and guidance for the tropical urbanism, ‘city in a rainforest’ and qualities of good urban places provisions in the planning scheme
  - (b) provide guidance for satisfying assessment criteria in the planning scheme, in particular the provisions of the City centre local plan code; and the Building height overlay code; and
  - (c) identify information that Council may request or that may be required for a development application.

### 2. Context to Tropical Urbanism

#### 2.1. Biophilia

- (1) Biophilia is a term that describes the extent to which humans are hard-wired to need connection with nature and other forms of life. It means that cities and their environment, and in particular their natural context, are inextricably linked.

This link is not only made at an emotional level, but it is the very built form of a community and how that built form connects with a community by sight, experience and identity that determines the experience for a resident or visitor; leading to positive memories, pride, comfort and an emotional association with the experience.

The overt presence of the natural environment and its abundant landscape makes Cairns a ‘city in a rainforest’. It is this close proximity of nature to the city that attracts tourism, energises the experience of locals, and positions Cairns as a unique tropical urban environment.

In Cairns, the relationship between built form, city planning and landscape is expressed as tropical urbanism and is a defining factor of the identity of Cairns.

#### 2.2. Tropical Urbanism

- (1) Tropical urbanism is the integration of landscaping and tropical design elements into the built environment. Development that expresses Tropical urbanism incorporates:
  - (a) Shelter from sun and rain;
  - (b) A contrast of light and shade;
  - (c) Sufficient spaces around and between buildings;
  - (d) Minimisation of radiant heat and heat island effects;
  - (e) Air circulation, breeze permeation and passive cooling;
  - (f) Generous outdoor living spaces with large window and balcony openings;
  - (g) Generous floor to ceiling heights;
  - (h) High quality landscaping;
  - (i) Quality public and private spaces that proliferate and enliven the urban form; and
  - (j) Passive design that responds to the tropical climate.

Figures 2.2.a and 2.2.b below depict the concept of Tropical Urbanism.



Figure 2.2.a – Concept of Tropical Urbanism



Figure 2.2.b – Tropical Urbanism in Cairns

### 3. Guidance on meeting planning scheme outcomes - Achieving Tropical Urbanism

#### 3.1. Articulation and Façade treatments

- (1) A key feature of tropical urbanism is variety and articulation and the interplay between light and shade on the facades of buildings. The contrast of light and shade creates visual interest and improves the amenity for residents and occupants by reducing heat load and creating shaded living spaces. Variety in built form can be achieved through the use of different materials, textures, use of light and shade, depth, colour and other architectural features and structures. Achieving variety will ensure that buildings appear separate and different from other buildings on the same or adjoining lots.
- (2) Articulation should predominantly form part of the built structure rather than be in the form of temporary fixtures or add on screening structures. Building facades should be modulated to add variety and visual interest and avoid large expanses of solid blank walls. This can be achieved through the use of the following mechanisms:
  - (a) Contrasting light and shade through the use of projections, balconies, recesses, awnings and overhangs;
  - (b) A minimum of 50% shading provided to the external surface of buildings (as measured between 9am and 3pm on both 21 June and 21 December). Shading is to be provided

through the use of permanent components of the built structure such as protruding balconies, overhangs or building articulation. Temporary features, performance glass or design elements that rely upon behavioural or operational actions to provide the required shading to external facades cannot be used in the calculation of the shading requirements;

- (c) Windows and balconies with large openings;
- (d) Vertical landscaping (see section 3.7 for additional guidance);
- (e) Varied roof profiles to break up the bulk of the roof design;
- (f) Patterning through the use of different materials, textures and colours;
- (g) Architectural features and structures.

Figures 3.1.a and 3.1.b below show how the elements above can be integrated to achieve variety in building facades.



Figure 3.1. a – Variety in façade treatments

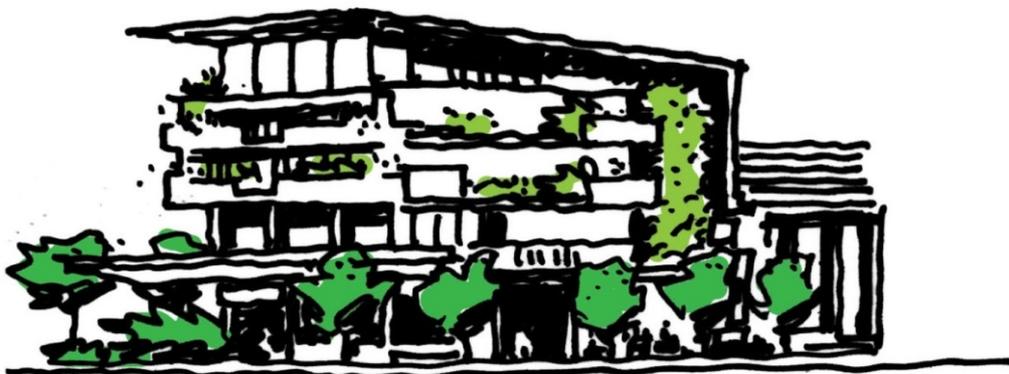


Figure 3.1. b – Variety in façade treatment

- (3) Variety in the built form and particularly the shape, height, width and façade treatments of buildings will add visual interest to the streetscape and skyline and prevent the appearance of a wall of buildings. Figure 3.1.c below shows an inconsistent design response that uses repetitive façade treatments to give the appearance of a continuous wall of buildings.

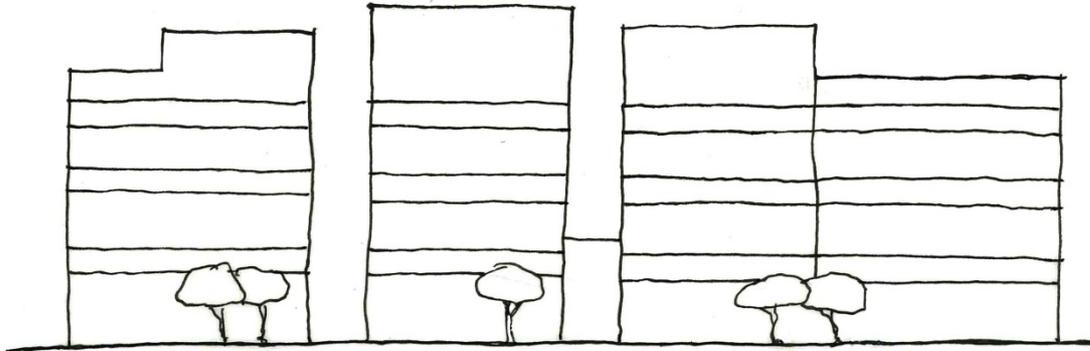


Figure 3.1.c – Inconsistent design response for façade treatments

### 3.2. Separation and setbacks

- (1) Separation between buildings/towers and appropriate setbacks from boundaries is essential to achieving:
- (a) privacy and amenity for residents and occupants of the development and adjoining developments;
  - (b) sufficient area to provide deep landscaping;
  - (c) access to natural light and ventilation;
  - (d) the retention of views lines through to the mountains and ocean; and
  - (e) the appearance of distinct buildings rather than the appearance of continuous buildings which blend into each other forming a ‘wall of buildings’.

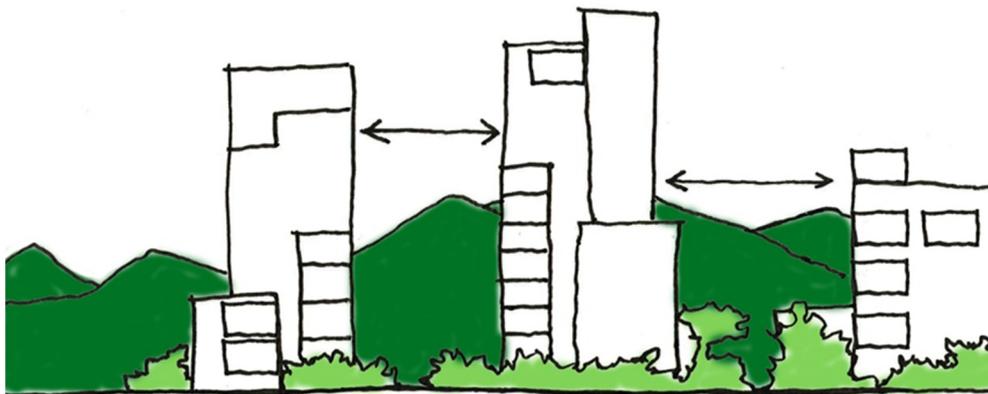


Figure 3.2.a – Separation between buildings

- (2) Front to rear orientation is the preferred orientation for all residential buildings to maintain privacy between adjoining sites with non-habitable rooms being preferred on the side facades. In some circumstances and for very wide development sites, units may face side boundaries where sufficient separation can be demonstrated. Figure 3.2.b below provides guidance on meeting the assessment criteria within the planning scheme for habitable room setbacks.

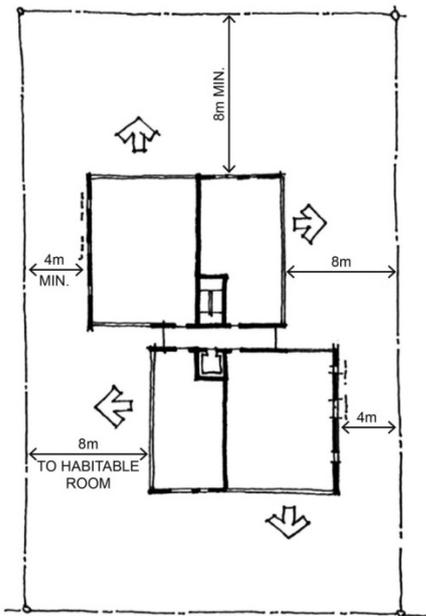


Figure 3.2.b – Setbacks for habitable rooms

### 3.3. Building width

- (1) Building width is not only important for the retention of views, but for maintaining the scale of the urban environment and facilitating landscaping outcomes. Excessive width of buildings impacts on outlook, views, local climatic conditions, opportunities for landscaping and penetration of light and breezes into the development, and can create adverse effects on adjoining and nearby premises. Maximum building widths have been included within the planning scheme to avoid the adverse impacts of wide buildings. Figure 3.3.a below demonstrates how maximum building widths are measured.

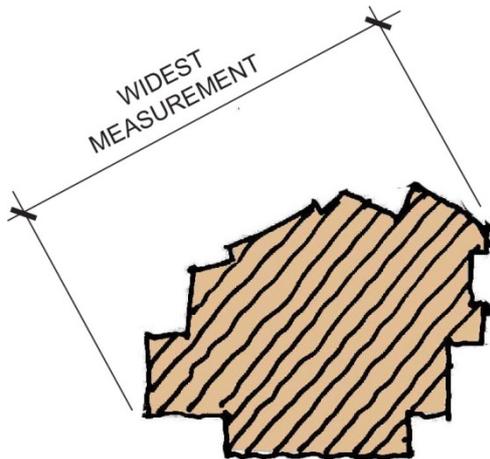


Figure 3.3.a – Measuring the maximum width of buildings

- (2) In the Cairns Centre City maximum building widths can apply to multiple adjoining developments where each development is on a lot less than 1000m<sup>2</sup>. Figure 3.3.b below, demonstrates how the maximum building widths of multiple adjoining development is measured.

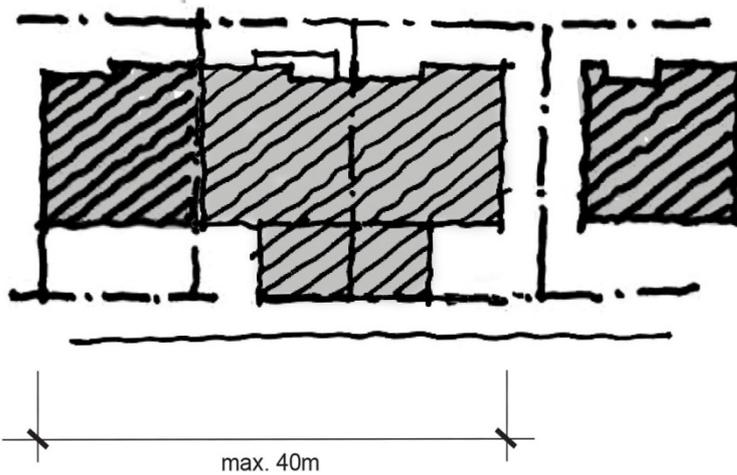


Figure 3.3.b – Measuring maximum width of multiple adjoining buildings

### 3.4. Walls on boundaries

- (1) To contribute to a vibrant and attractive city all visible building façades, including podium walls located on property boundaries are to be presented as well-resolved and attractive visual compositions through articulation or architectural treatment. As the city develops blank walls awaiting a similar development on adjoining sites will occur, the visible portion of these walls are to be treated. Façade treatments should be integrated within the building design and not rely on paint or applied finishes which may deteriorate over time. Figure 3.4.a below provides guidance on meeting the assessment criteria within the planning scheme for articulation and architectural treatments.

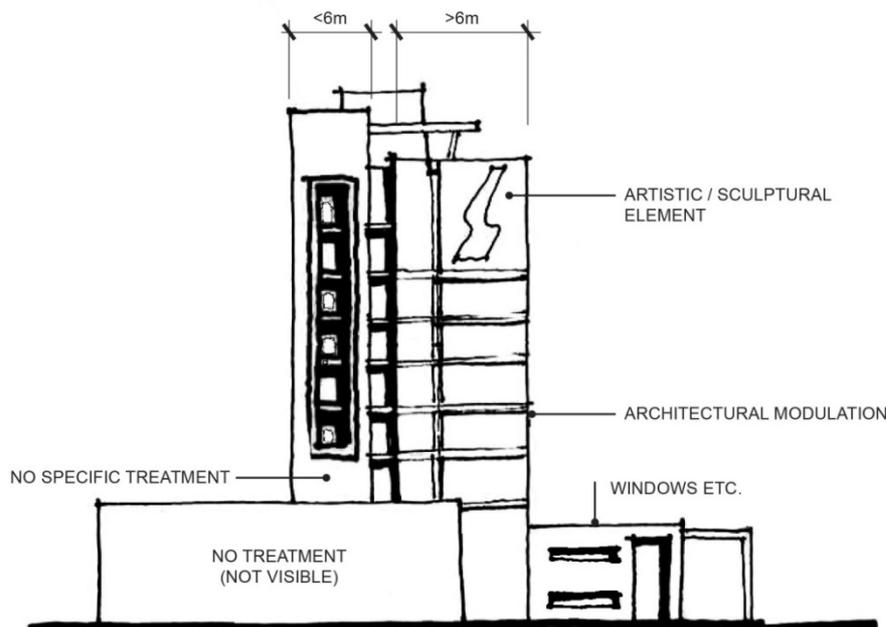


Figure 3.4.a – Example of articulation and architectural treatments

### 3.5. Views and vistas

- (1) The views to the mountains which surround the Cairns urban area, in all directions (other than the North and North East) both between buildings and along streets are part of the tropical context and experience of Cairns. Views to the North and North East to Trinity Bay, and in some parts of the City Centre to Trinity Inlet, are of equal significance.

- (2) Boundary setbacks and minimum separation distances between buildings have been nominated to ensure that view lines to the mountains and ocean are maintained. Figure 3.5.a below shows how view lines are retained between buildings.

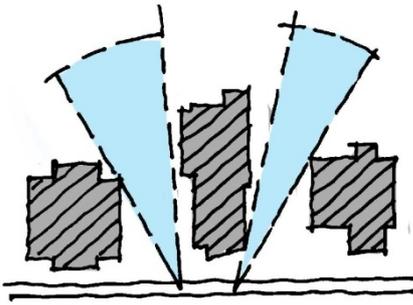


Figure 3.5.a – View lines between buildings

**3.6. Horizontal landscaping**

- (1) The abundance of green landscaping is a predominant characteristic of the image of Cairns as a ‘city in a rainforest’. Landscaping also acts as a feature to development, providing shade and softening and articulating the built form. In North Cairns, landscaping should be provided along all boundaries.
- (2) Horizontal landscaping can be achieved through deep landscaping in ground, landscaping on podiums and above basements, in planter boxes and on rooftops. However where the height of the proposed development is proximate to the Obstacle limitation surface shown on the Airport environs overlay maps contained in Schedule 2, rooftop gardens and rooftop recreational areas are not permitted to minimise risk of bird or bat strikes to aircraft.

Figure 3.6.a below provides guidance of meeting the planning scheme requirements for deep landscaping areas in each corner of the site.

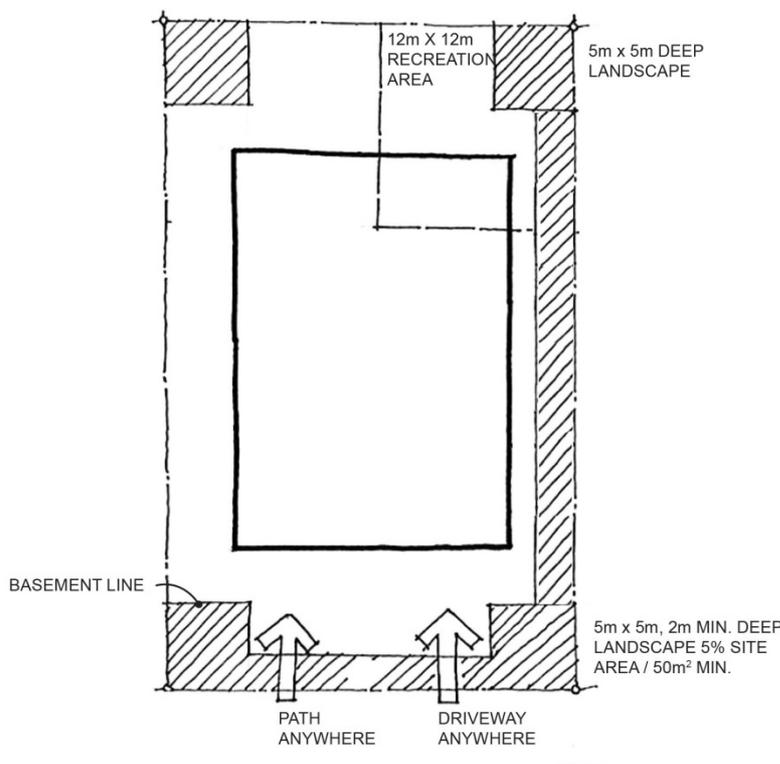


Figure 3.6.a – Deep landscaping areas in site corners

- (3) Driveways are to be located such that they facilitate the achievement of the required on-site landscaping. It is anticipated that in some circumstances safety considerations will dictate the location of the driveway, and in these cases one deep landscaped corner may not be required or may not be required at full size.
- (4) Landscaping can be used as a mechanism for screening plant and equipment from view. However, where this is proposed, landscaping needs to be of an appropriate size and density to sufficiently achieve complete screening. Such landscaping will need to be planted at sufficient maturity to achieve immediate screening.
- (5) Where a development adjoins an existing development which has a building wall or basement parking structure on the one boundary, the development may propose a corresponding, abutting, wall or basement, in such cases the provision of landscaping may best be accommodated through increased density and depth of landscaping on the opposite boundary. Side boundary setbacks should contain landscaping and not be dominated by hard surfaces, driveways or services.
- (6) The minimum usable recreation space required by the code can include a deep landscaped corner.

### 3.7. Vertical Landscaping

- (1) Conventionally landscaping is provided at grade and on top of podiums or basement car parking structures. Vertical landscaping seeks to achieve the appearance of landscaping at all levels of a building. Landscaping of a building vertically as well as horizontally softens and screens the appearance of the built form and connects the higher levels of the building to the ground and surrounding setting. Vertical landscaping can also be used in the articulation of building facades.
- (2) The requirements for vertical landscaping can be achieved through the use of one or more of the following mechanisms:
  - (a) Deep landscaping within the ground that incorporates tree species that, within 5 years, reach heights to achieve sufficient coverage of the façade;
  - (b) Landscaping on top of podiums and basements (green roofs and planter box style planting);
  - (c) The integration of planter boxes at various levels on the façade, outside of balconies, external stairs or other architectural features;
  - (d) Vertical gardens, green walls or trellis planting;
  - (e) Rooftop gardens (only where at a height that would not increase the risk of aircraft bird or bat strike).

Figure 3.7.a below demonstrates how the mechanisms above can be used to achieve vertical landscaping.



Figure 3.7.a – Vertical landscaping

- (3) The planning scheme includes specific requirements for the percentage of vertical landscaping to be provided. The calculation of the amount of vertical landscaping coverage is based on the expected foliage size of the vegetation at maturity (or within 5 years, whichever ever occurs first) in relation to size of the building. Vertical landscaping can be measured on an elevation plan where the view provided in the elevation is directly perpendicular to the building.

Figure 3.7.b and 3.7.c below demonstrates how to calculate the percentage of vertical landscaping. The landscaping shown in green can be used to calculate the percentage of vertical landscaping.



Figure 3.7.b – Front elevation (Landscaping in green is used to calculate vertical landscaping coverage)

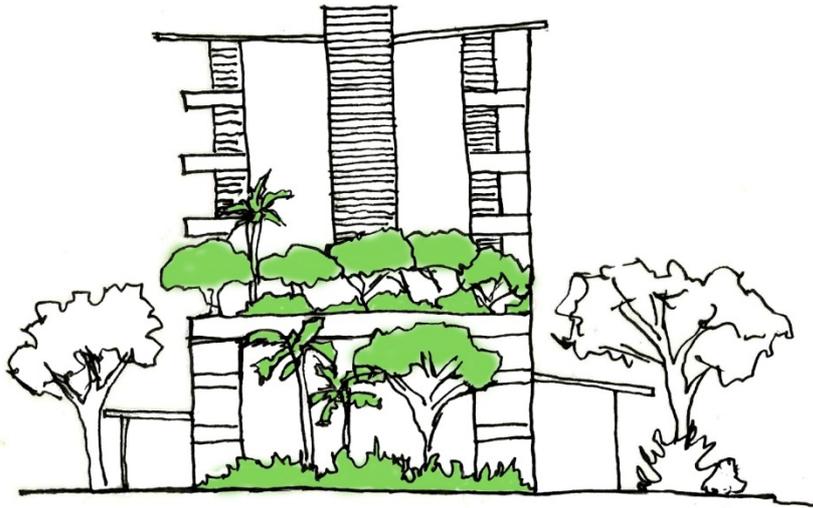


Figure 3.7.c – Side elevation (Landscaping in green is used to calculate vertical landscaping coverage)



Figure 3.7.d – Example of vertical landscaping in North Cairns



Figure 3.7.e – Example of vertical landscaping – Cairns Hilton

- (4) The applicant may be requested to provide Landscaping structure plans and diagrams to illustrate the degree of façade cover to all facades and illustrate, along with plant species lists, the vertical landscaping at installation, maturity and in between. Maintenance of landscaping will be required for the life of the development.

**3.8. Street canopy**

- (1) The street canopy is an architectural expression of the natural rainforest canopy. Figures 3.8.a and 3.8.b below show this relationship. It will be a signature design element for Cairns for future generations, and a defining element of the tropical urbanism for which Cairns will be recognised internationally.

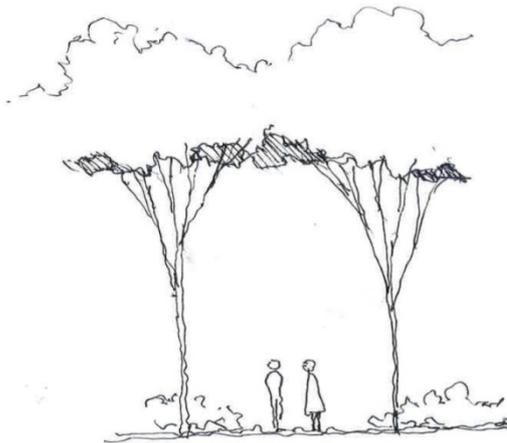


Figure 3.8.a – The rainforest canopy in its natural setting

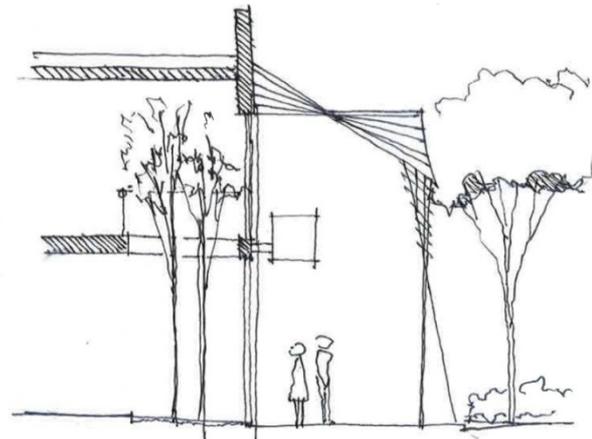


Figure 3.8.b – The architectural expression of the rainforest canopy

- (2) The street canopy is an element of development required for development within the Cairns city centre local plan area.
- (3) The street canopy aims to raise the height of conventional awnings, provide a generous and activated interface to enable strong visual connectivity between the street and the interior of buildings, particularly uses located on the second storey. The street canopy allows uses contained on the second storey to be activated and easily visible by pedestrian from street level.
- (4) The street canopy provides a tall sheltered space that offers continuous connections and involves the ground and second storey of the podium in the street level experience. It is an interpretation in built form of the sheltering canopy of the rain forest. The street canopy may provide for filtered light to penetrate through. Combined with street plantings the street canopy can provide protection from the elements when moving about the city.
- (5) The street canopy is expected to occupy the full frontage of the site. The height of the street canopy is a minimum 6m and a maximum of 9m. Such height is to span over service and vehicle access driveways. The street canopy is to include design features that provide suitable weather and solar protection according to street orientation and exposure. Weather and solar protection features of the street canopy are not expected to occur within the first storey. The street canopy is not intended to be fully enclosed, solid or impermeable.
- (6) The interior space of the development should, for a minimum of 35m<sup>2</sup> of the ground floor area, include a full height atrium exclusive of mezzanines or staircases to create a large, open entry space which complements the exterior space provided by the street canopy.

Figure 3.8.c and 3.8.d below depict the street canopy.



Figure 3.8.c – Street canopy

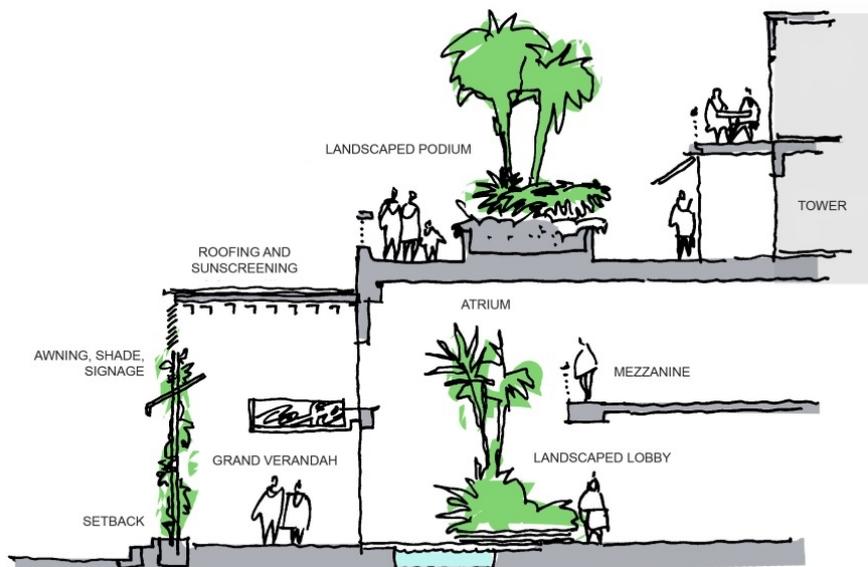


Figure 3.8.d – Street canopy (typical cross section)

- (7) The footpath frontage to new or renovated buildings is to be developed as a desirable public space offering weather protection and a generous interface with the activated street-front building.
- (8) The canopy will potentially increase the amount of shade in the footpaths and in the carriageway of the street, reducing the “heat Island” effect and soften the transition from footpath to roadway.
- (9) The Street Canopy should be designed as an integral component of the architectural expression of the development. The structure should also be designed with consideration of the scale and character of adjoining canopies and adjacent heritage or character architecture.

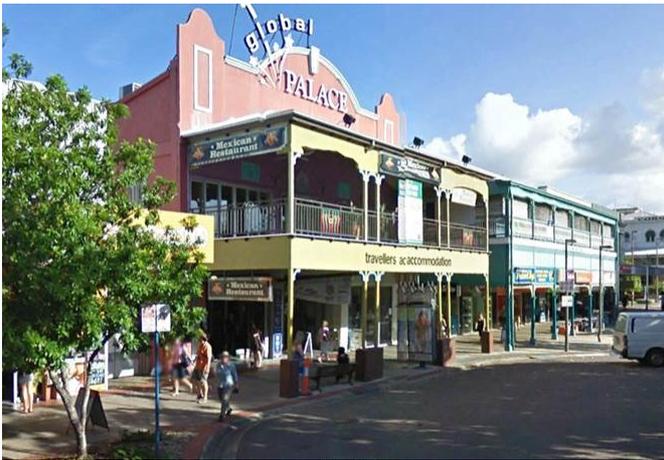


Figure 3.8.e – Existing development within Cairns that reflects the street canopy

- (10) Signage on the canopy structure shall be limited, with a preference for shopfront advertising within the street canopy. Structures projecting off the street canopy are to be designed and provided for weather protection and amenity purposes and should not be used for advertising.

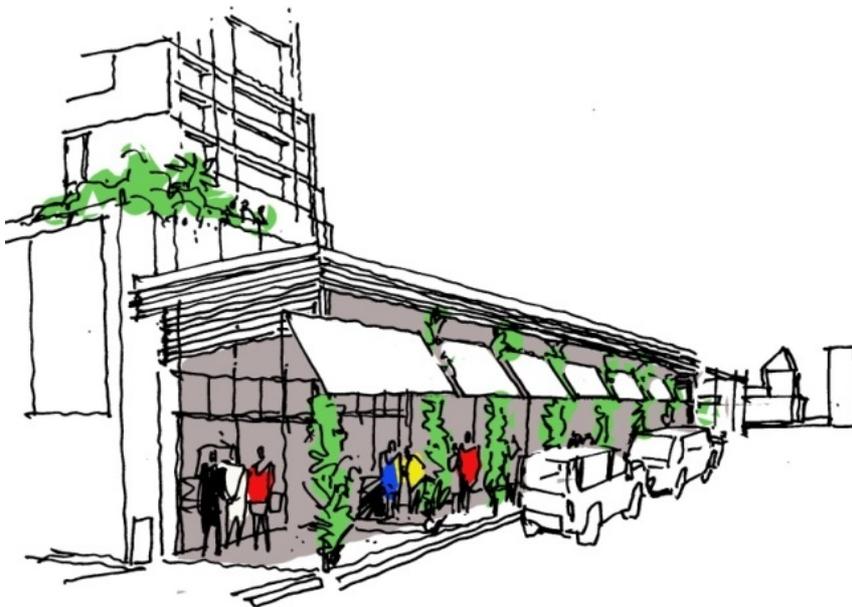


Figure 3.8.f – Street canopy (filtered light and shade)



Figure 3.8.g – Street canopy (view from inside)



Figure 3.8.h – Street canopy (advertising is located on shop fronts)



**3.9. Car parking sleeving**

- (1) Car parking at grade or on upper levels can interrupt the street amenity and erode architectural features through visual dominance and lost opportunity for landscaping both at grade and vertically. Development will be required to reduce the impact of car parking by sleeving the car parking areas with uses that address the streetscape, including uses that provide an active frontage at the pedestrian level.

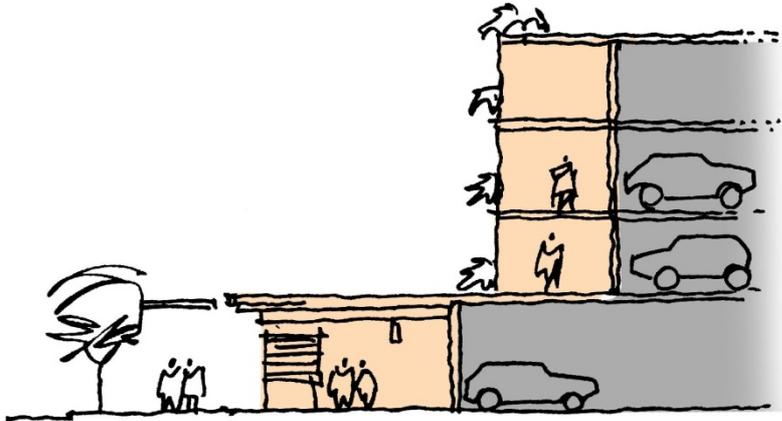


Figure 3.9.a – Sleeving of car parking behind uses

**3.10. Human scale**

- (1) Development is to be appropriately set back from the street frontage to ensure that it does not overwhelm the pedestrian realm and to maintain vistas along streets. Where appropriate, podiums are provided to ensure that there is a gradual transition in height from the pedestrian realm to the tower above.
- (2) In the Cairns city centre, the street canopy aims to ensure that buildings do not dominate the pedestrian environment. The use of appropriately scaled podiums and street canopies make the street environment comfortable, welcoming and conducive to commercial, social and cultural connectivity.

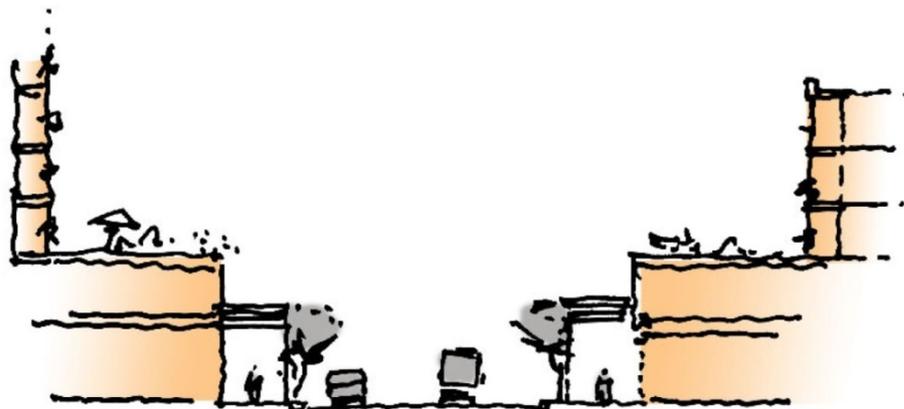


Figure 3.10.a – Human scale at streetscape level

- (3) In North Cairns buildings are set back from boundaries and landscaping dominates the street frontages to retain the human scale of the streetscape.

### 3.11. Mid-block connections

- (1) Where development has frontage to two parallel streets, it may be appropriate to incorporate a public pedestrian connection between the two streets. Where development is proposed within the Cairns city centre, mid-block connections are provided and provide for active uses. Where development is located within North Cairns, mid-block connections are desirable and predominantly used to allow free pedestrian movement between blocks. Mid-block connections can also provide visual connectivity to other public places and assist with way finding.

## 4. Guidance on meeting planning scheme outcomes – Qualities of Good Urban Places

- (2) The following provides a summary of the key qualities of good urban places derived from “An agenda for Urban Quality in Queensland” prepared by Urban Design Alliance Queensland.

### 4.1. Access and Connectivity

- (1) Good places will be connected and accessible to everyone in the community.
- (2) There will be a choice of routes for various methods of movement.
- (3) A fine mesh of routes is more desirable than a few widely dispersed routes.
- (4) Visual connectivity is equally as important as physical connectivity.
- (5) Through routes are generally more desirable than dead-end ones.
- (6) Residents have a sense of street address.

### 4.2. Variety

- (1) A good urban place will have a mix of uses and a variety of building types, sizes and shapes.
- (2) Variety in height, setback, landscaping and façade treatments should be used to differentiate between adjoining buildings.

### 4.3. Adaptability and versatility

- (1) A good place will be able to accommodate a large range of uses, activities and purposes over the daily and weekly cycle, seasonal patterns as well as other changes with which the city has to cope.
- (2) Good places consider the interchangeability of land uses over time and can adapt with minimal alteration to the built form.
- (3) The retention and adaptive re-use of significant places contributes to character and historic fabric of a place.

### 4.4. Legibility

- (1) The function and purpose of a place is easily understood.
- (2) Legibility can be achieved through the design and relationship of urban elements including the alignment of streets, public spaces and landmark buildings.
- (3) A place must be easy to navigate.
- (4) A good urban place has clear reference points including landmarks, and views and vistas.

### 4.5. Active spaces

- (1) People respond to defined spaces. A good place will have well contained and interesting spaces in which people feel comfortable.
- (2) How well a public space works will be largely determined by its inclusions, arrangement and functionality.
- (3) A dynamic, vibrant and interesting space is likely to have ‘active’ edges.
- (4) Active uses address public spaces.
- (5) Service equipment and utility areas cannot be seen from public spaces.

#### 4.6. Human needs

- (1) A good place will consider and provide for all human needs.
- (2) Safety as well as the perception of safety is essential.
- (3) The principles of Crime Prevention Through Environmental Design are applied.
- (4) Large buildings are designed so that people feel comfortable and not overpowered by their presence.
- (5) There is a focus on the treatment and interaction provided at ground level to provide for a positive pedestrian environment.
- (6) A good urban place is one which enhances the sense of community, social interaction and strengthens the self-image and identity of the people who use it.
- (7) A good urban place has an abundance of sensory experiences such as visual, touch, sound and motion.

#### 4.7. Sustainability

- (1) Development is flexible and meets the needs of current users without compromising the needs of future generations.
- (2) Passive design measures are incorporated.

#### 4.8. Urban landscaping

- (1) Landscaping of the city is an integral part of the urban fabric and is provided as a continuous medium rather than local or site specific enhancements.
- (2) Public places including parks, streets and natural areas contribute to the network of green space throughout the city.
- (3) Landscaping is a feature of developments to contribute to a green urban space.

### 5. Information Council may request

#### 5.1. Supporting information

- (1) Council may request the following supporting information to demonstrate compliance with the assessment criteria within the planning scheme:
  - (a) Tropical Urbanism Assessment - An assessment of the proposed development demonstrating how the development achieves Tropical Urbanism
  - (b) Qualities of Good Urban Places Assessment – An assessment of the proposed development demonstrating how the Qualities of Good Urban Places have been incorporated.
  - (c) Visual impact assessment – An assessment of the visual impact of the proposed development including photomontages, prepared with accurate RLs demonstrating how the proposed building ‘fits’ into its street and locality context.
  - (d) Landscaping structure plans and diagrams to illustrate the degree of horizontal and vertical landscaping including façade cover to all facades and illustrate, along with plant species lists, the landscaping at installation, maturity and in between.
  - (e) Light and shade diagrams demonstrating how light and shade is cast onto each facade of the building.
  - (f) Site analysis diagrams showing how the design is oriented to local sun and wind conditions.
  - (g) Within the Cairns city centre, detailed descriptions of the extent of landscaping to be provided on the street canopy.

#### 5.2. Related materials

- (1) Other documents which provide guidance on meeting the purpose of the planning scheme outcomes, but are not subject to a development assessment processes under the planning scheme include:

- (a) *Cairns Style Design Guide*, Cairns Regional Council
- (b) *Sustainable Design for Commercial Buildings*, Cairns Regional Council
- (c) *An agenda for Urban Quality in Queensland*, Urban Design Alliance Queensland
- (d) *Cool homes guide and site analysis tool*, Cairns Regional Council

## 6. Schedule of amendments

**Table 6.a – Schedule of amendments**

Amendment title	Version number	Description	Dates
CairnsPlan 2016 Amendment 1 of 2017 - Administrative	1.1	The amendment integrates the Cairns Local Government Infrastructure Plan and corrects formatting, numbering, outdated terms and factual matters incorrectly stated in the planning scheme.	Adopted 28 June 2017  Commenced 1 July 2017
Planning Scheme Policy – Tropical urbanism Amendment 1 of 2017 - Administrative	1.2	The amendment corrects formatting and numbering to remove the Planning Scheme Policy from Schedule 6 of the CairnsPlan 2016 and includes a schedule of amendments.	Adopted 6 December 2017  Commenced 11 December 2017