

CAIRNS STYLE DESIGN GUIDE

RETAINING AND ENHANCING THE DISTINCT TROPICAL STYLE AND CHARACTER OF CAIRNS

CAIRNS STYLE DESIGN GUIDE

October 2010 · Cairns Regional Council
119-145 Spence Street · PO Box 359 · Cairns, QLD, 4870
Ph: (07) 4044 3044 · F: (07) 4044 3022 · E: council@cairns.qld.gov.au

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



ACKNOWLEDGEMENTS

Cairns Style would not have been possible without the collaborative efforts of a number of people. Cairns Regional Council would like to thank all contributors for their involvement and invaluable contributions to the Cairns Style Design Guide and looks forward to ongoing feedback on this resource.

Design and layout:

Cairns Regional Council

Technical writing:

Cairns Regional Council

JNP Pawsey & Prowse, Landscape Architects & Heritage Advisors, Cairns

Gordon Grimwade, Heritage Conservation Consultant

Meredeth Walker, Heritage Consultant

Photography:

Cairns Regional Council

Dr Peter Bell

Kym Joesph – Photography 4 Real Estate

Infinity Solar

Illustrations:

Cairns Regional Council

Peter Richards, Deicke Richards

Andrew Prowse, JNP Pawsey & Prowse

Contributors:

Brent O'Neill - ML Design

Gordon Beath - Edge Architecture

Peter Richards - Deicke Richards

Su Groome - ARUP

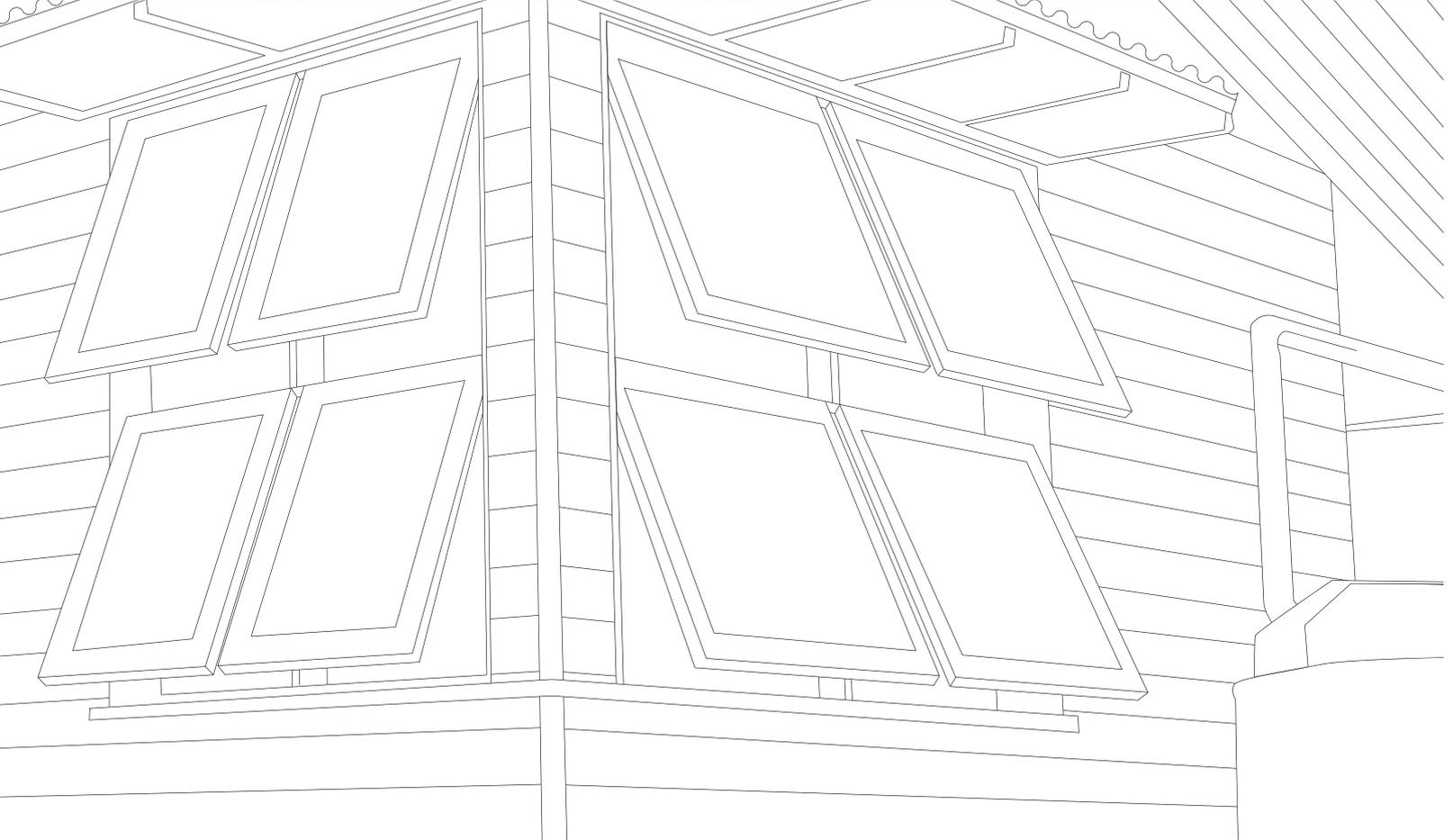
Terry James - JB Design

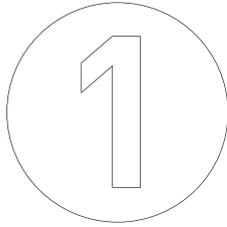
Cairns Regional Council - Urban Design Advisory Board



CONTENTS

1.0_INTRODUCTION	09	4.0_MULTIPLE DWELLINGS	55
1.1_WHAT IS THE CAIRNS STYLE DESIGN GUIDE?	10	4.1_INTRODUCTION	57
1.2_WHAT IS THE PURPOSE OF THE CAIRNS STYLE DESIGN GUIDE?	11	4.2_ROOF PROFILES & EAVES	59
1.3_HOW TO USE THIS DOCUMENT	13	4.3_WINDOWS & AWNINGS	61
1.4_GLOSSARY	14	4.4_OUTDOOR ROOMS	63
		4.5_COLOURS	65
		4.6_CHARACTER PATTERN	67
2.0_QUEENSLANDERS	17	5.0_COMMERCIAL & CIVIC	71
2.1_INTRODUCTION	19	5.1_INTRODUCTION	73
2.2_MATERIALS	21	5.2_ROOF PROFILES	75
2.3_LOUVRES & LATTICES	23	5.3_PARAPETS	76
2.4_ROOF PROFILES	24	5.4_VERANDAHS & AWNINGS	78
2.5_WINDOWS & AWNINGS	27	5.5_MIXED USE DEVELOPMENT	80
2.6_VERANDAHS	28	5.6_ACTIVE FRONTAGES	81
2.7_GARAGES	31	5.7_BIG BOX COMMERCIAL	83
2.8_FENCES	32		
2.9_COLOURS	35	6.0_LANDSCAPING & SCREENING	85
2.10_BUILDING IN UNDERNEATH	36	6.1_INTRODUCTION	87
2.11_RETAINING OLDER DWELLINGS IN CHARACTER PRECINCTS	37		
		7.0_SUSTAINABLE BUILDING DESIGN	91
3.0_CONTEMPORARY HOUSES	39	7.1_INTRODUCTION	92
3.1_INTRODUCTION	41	7.2_SHADING, INSULATION & ORIENTATION	94
3.2_ROOF PROFILES & EAVES	43		
3.3_WINDOWS & AWNINGS	44	8.0_RESOURCES	97
3.4_OUTDOOR ROOMS	47		
3.5_COLOURS	48		
3.6_MATERIALS	50		
3.7_FENCES	51		
3.8_GARAGES	53		





INTRODUCTION

CONTENTS

1.1_ WHAT IS THE CAIRNS STYLE DESIGN GUIDE?	10
1.2_ WHAT IS THE PURPOSE OF THE CAIRNS STYLE DESIGN GUIDE?	11
1.3_ HOW TO USE THIS DOCUMENT	12
1.4_ GLOSSARY	14



WHAT IS THE CAIRNS STYLE DESIGN GUIDE?

The Cairns Style Design Guide describes, in words, pictures and diagrams, the tropical style that is the desired design direction for the Cairns region. Cairns Style is a broad concept ranging from the overall pattern and rhythm of streets to the detail of window awnings and balustrades.

Cairns Style is important for all building projects, from minor building renovations in the suburbs to new

commercial projects in the city centre. Retaining and enhancing the distinct tropical style and character of Cairns will improve the aesthetics, amenity and liveability of the Cairns region.

WHAT IS THE PURPOSE OF THE CAIRNS STYLE DESIGN GUIDE?

The purpose of the Cairns Style Design Guide is to promote a distinct tropical style for the region of Cairns in order to create a strong, cohesive and memorable identity. Cairns Style is not intended to dictate taste or restrict freedom of choice. Importantly the Cairns Style Design Guide does not suggest that all new buildings should 'copy' old buildings.

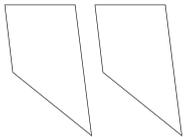
This practice is discouraged as it would result in a 'Disneyland', rather than a modern tropical region, and the older building types do not necessarily meet the needs of modern families and businesses. While it is important that a significant number of older buildings and the streetscapes they create are retained as the historic reference point for Cairns Style, new buildings, and even extensions of older buildings, need to interpret the key features and design elements found in the older buildings in contemporary ways. It is this rich mix of older and contemporary tropical building forms that will create a vibrant Cairns Style.

The Cairns Style Design Guide identifies and analyses the key elements of traditional built forms that contribute to the style recognised as being unique to Cairns. The Design

Guide also includes strategies to incorporate those key elements through tropical and climatically appropriate design of new building works that will make a positive contribution to the desired style for the region.

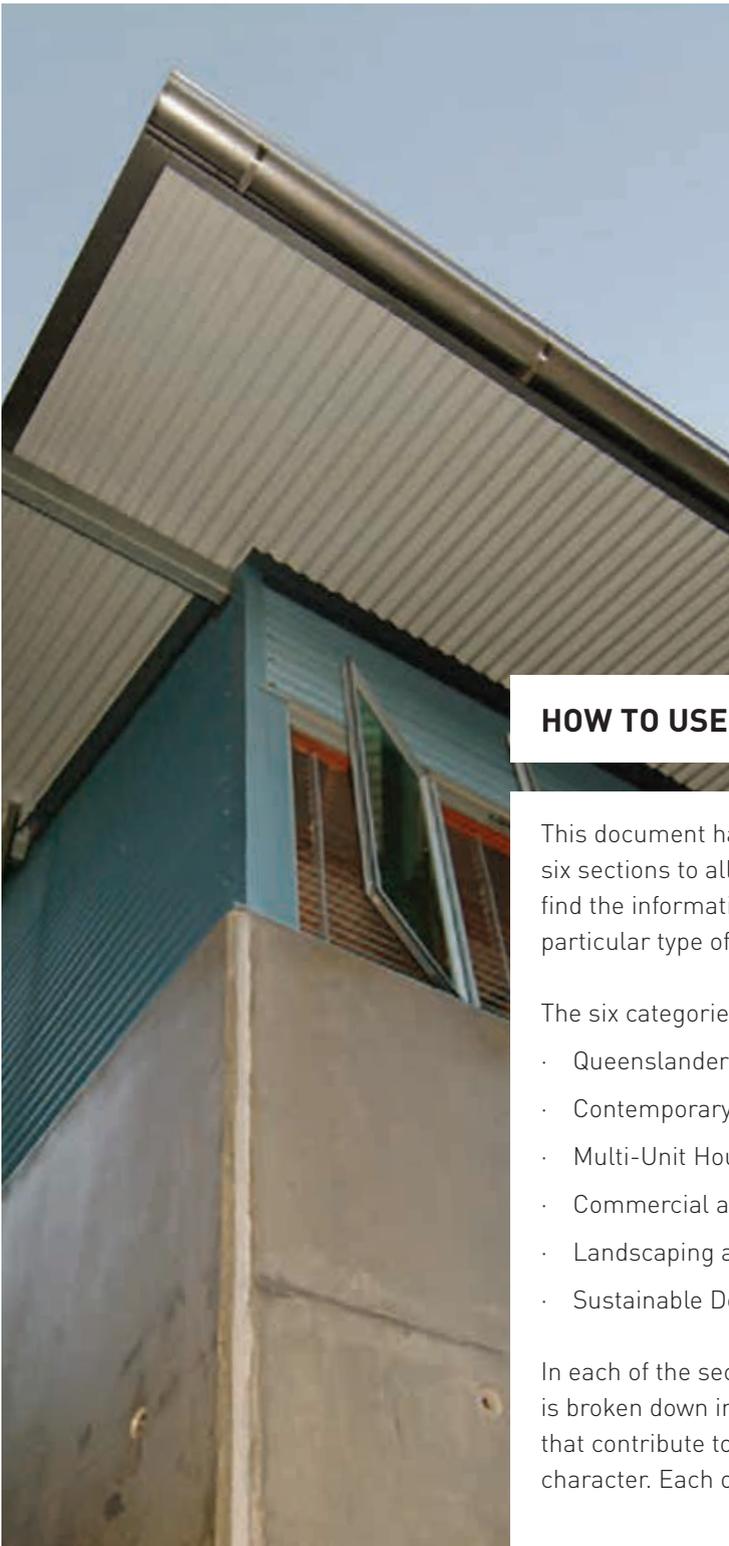
This Cairns Style Design Guide is intended to encourage the development industry to provide streetscapes, housing and building designs that are responsive to the environment, climate, local character and community needs.

At the same time it is intended to raise awareness in the community of the choices and alternatives available and the opportunities for an individual house, multi-unit development or commercial building to contribute to a collective Cairns Style.



Cairns Style is a broad concept ranging from the overall pattern and rhythm of streets to the detail of window awnings and balustrades.





HOW TO USE THIS DOCUMENT

This document has been divided into six sections to allow the user to quickly find the information relevant to their particular type of development.

The six categories discussed are:

- Queenslanders
- Contemporary Houses
- Multi-Unit Housing
- Commercial and Civic Buildings
- Landscaping and Screening
- Sustainable Design

In each of the sections, the development is broken down into the elements that contribute to the development's character. Each of these elements

are introduced with a brief discussion about the element in the context of the development. This is followed by a discussion detailing 'WHY' the element is important and 'HOW' you can incorporate this element in your development and contribute positively to the strengthening of Cairns Style.

Where a 'TIPS' section is included, further advice is provided on how to achieve a desirable outcome and what should be avoided. Images depicting desirable outcomes or good examples of what has been discussed are included. In some instances, a poor outcome may be included to clearly demonstrate what is considered inconsistent with Cairns Style.

GLOSSARY

Active Frontage	An active frontage facilitates a safe pedestrian environment and encourages increased pedestrian activity. Alfresco dining, glass shop fronts and activities spilling onto the street create active frontages.
Batten Screen	Narrow battens, usually of timber, positioned with small gaps in between, to form a screen that improves privacy but still allows breezes to penetrate. Battens can be arranged vertically or horizontally.
Connection with the Street	The popularity of the motor vehicle has resulted in the loss of society's connection with the street. Traditionally the street was used as a place of 'exchange' of information, friendship, material goods, culture, knowledge, insight and skills.
Cross Ventilation	The use of windows, doors or vents on opposite sides of a building to facilitate the circulation of air.
Human Scale	Proportional relationship between the human and the design of his/her surrounding natural and built environment. Design elements usually include height, distance, bulk and mass.
Liveable	Fit or suitable to live in or with. Liveability is usually affected by comfort and access.
Neighbourhood Character	Neighbourhood character is the relationship of built form, vegetation and topographic characteristics, in both the private and public domains that make one place different from another.

Passive Surveillance	Passive surveillance is the subconscious, ongoing, casual observation of the streetscape implied by such things as activity, front verandahs, windows or gardening.
Precinct	A distinct area with generally definable boundaries.
Rhythm and Rhyme of the Streetscape	The regular or ordered repetition of dominant and subordinate elements of the streetscape, for example, constant housing setback distances creates a repetition of a dominant element.
Setback	The required minimum horizontal distance between the building line and the related front, side, or rear property line.
Skyline	The outline of objects seen against the sky.
Social Interaction	Interaction between individuals within a community. Interaction may be by chance, planned or manufactured.
Streetscape	The visual appearance of a street, including the rhythm and scale of urban form elements such as the road, built form, street furniture, fences, vegetation and open spaces, that combine to form the street's character.
Vernacular Architecture	Architecture that is local to a region or area through use of local materials or design characteristics.
Visually Permeable	Able to be seen through.





QUEENSLANDERS

CONTENTS

2.1_INTRODUCTION	19
2.2_MATERIALS	21
2.3_LOUVRES & LATTICES	23
2.4_ROOF PROFILES	24
2.5_WINDOWS & AWNINGS	27
2.6_VERANDAHS	28
2.7_GARAGES	31
2.8_FENCES	32
2.9_COLOURS	35
2.10_BUILDING IN UNDERNEATH	36
2.11_RETAINING OLDER DWELLINGS IN CHARACTER PRECINCTS	37



The Cairns Queenslander has stood the test of time and is testimony to the use of appropriate materials and climatically responsive design.



INTRODUCTION

As with many Queensland towns and cities, the 'Queenslander' house is recognised as an important element of Cairns Style. However, Queenslanders vary slightly across the State, reflecting the economy, climate and social conditions in different towns, and so the Cairns Queenslander has developed with its own unique style.

One distinctive element of traditional streets in Cairns is that individual lots had narrow street frontages and so houses were built close together, resulting in a relatively dense streetscape. Houses were also often built close to the front of the street, creating a sense of the street being 'watched' and leaving a large backyard area for fruit which today form a lush green backdrop in most streets.

The tropical climate of Cairns also generated a unique building response. Cairns Queenslanders were built high enough that the downstairs area could be used during the day as a cool retreat. This area was often enclosed with timber battens to keep out the sun. Upstairs, verandahs were usually semi enclosed with louvres, casements or lattice to admit breezes, keep out the rain and protect the central sleeping and living areas from the heat

of the day. The verandahs were also used for informal living activities and as a sleeping area for children.

The extensive use of timber, due to its ready availability, is a distinctive feature of Cairns Queenslanders. Timber louvres, screens, lattice, battens and trims all contribute to the style of Cairns. The almost exclusive use of corrugated iron for roofing is also a feature of Cairns Queenslanders.

The Cairns Queenslander has stood the test of time and is testimony to the use of appropriate materials and climatically responsive design. Today the scale, form and style of the Cairns Queenslander is a key determinant of the style of Cairns.

Retaining character and streetscape is encouraged throughout Cairns with particular emphasis in character precincts, identified in the CairnsPlan. Many of these areas contain some of the best examples of traditional Queenslanders that define the character of the streetscape which contributes to the Cairns Style.



The repetitive use of a limited number of materials, in different ways, is also a unique characteristic of Cairns Style.



MATERIALS

Traditional housing in Cairns demonstrates the materials that were readily available and affordable at the time, notably 'timber and tin'. Today these materials are recognised as distinctive elements of Cairns Style. The repetitive use of a limited number of materials, in different ways, is also an unique characteristic of Cairns Style. Typically a timber frame was covered with cladding that was milled from local forests, commonly cedar, hickory and kauri pine. Early houses were often constructed with timber lining or cladding to one face of the wall only, with exposed timber frames on the inner or even external face of the wall. This construction technique is referred to as 'single skin'. Timber was also used extensively for external and internal features and fittings including:

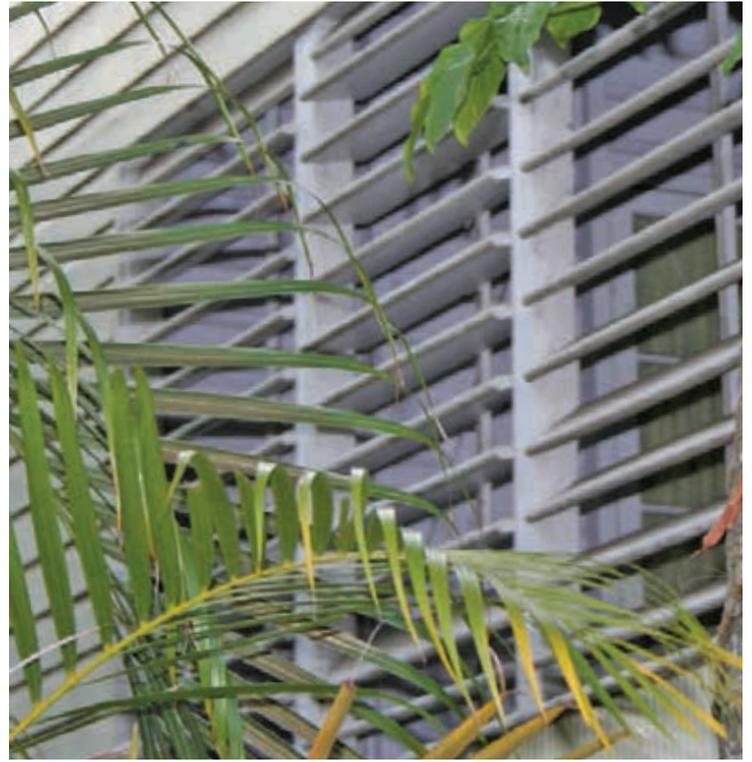
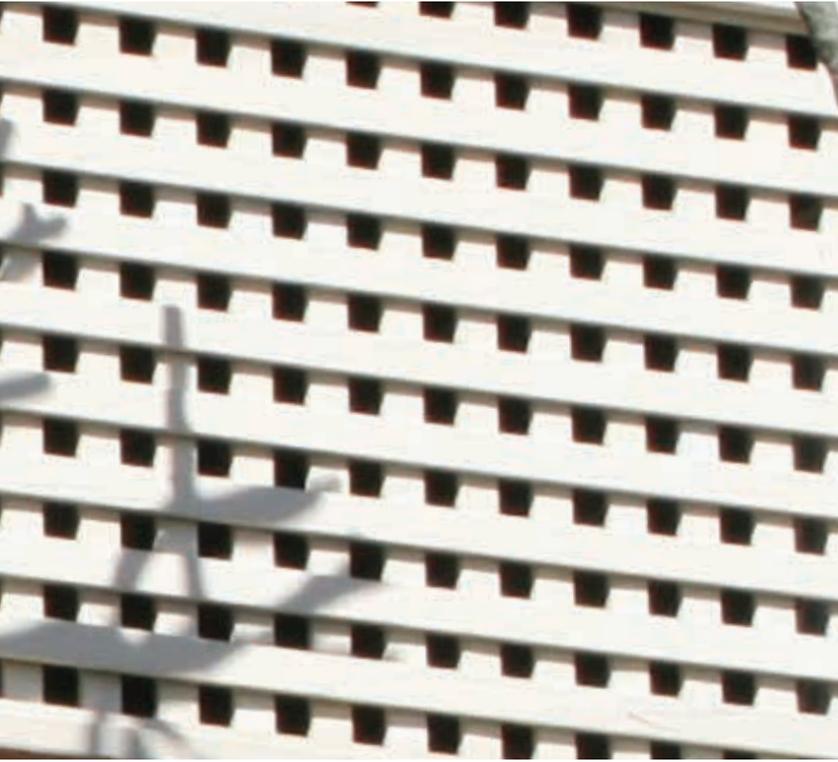
- Balustrades and stairs
- Vertical battens to enclose the undercroft areas
- Lattice and timber louvres to enclose verandahs

- Awnings over windows
- Fences
- Internal dividers and vents

Sometimes, to save on construction costs, ripple iron was also used for external cladding. This is similar to the product now known as Mini Orb. Roofs were also 'tin', being almost always clad with galvanised or corrugated iron. Patterned glass is another common product in a Cairns Queenslander, and this is discussed in more detail in the windows section.

Tips for renovating or extending a Queenslander

- *Try to retain the existing materials in an existing house. If they need to be replaced because they are in poor condition, explore options to replace existing materials with similar, sympathetic materials. For example, replace weatherboards with fibre cement boards that have the same profile.*
- *If older materials, such as timber louvres or screens have been removed in previous renovations, consider re-instating them, but find out details and forms that were used in the local area, rather than a timber trim from another place or era.*
- *When extending or renovating try to use materials that are sympathetic with the existing materials. However, it is not necessary to copy the older works, new materials can successfully be used and may give more value to the older building and materials.*



The use of louvres and lattice to enclose verandahs provides a degree of security whilst enabling breezes to penetrate.





LOUVRES AND LATTICES

Louvres and lattice are signature Cairns Style elements from both an aesthetic and environmental perspective. These elements were historically used for ventilation purposes and to keep direct sun off house walls but also improved security. Improved natural ventilation results in less reliance on mechanical energy sources.

The use of louvres and lattice to enclose verandahs provides a degree of security whilst enabling breezes to penetrate. The use of louvres, lattice and casement windows on upper levels and timber batten screens on the under storey of raised houses are very distinct features of Cairns Queenslanders.



ROOF PROFILES

Roof profiles contribute significantly to the character of Cairns Queenslanders. A variety of roof profiles can be found in Cairns houses including hipped roofs, gable roofs and a combination of the two. Traditionally roofs were constructed with corrugated iron however today galvanised iron sheeting is used for its similar appearance and longevity. The pitch of roofs varied but was usually greater than 30 degrees.

Why it is important

Roof profiles contribute significantly to the character of Queenslander houses and traditional streetscapes.

Gabled and hipped roofs create large cavities of roof space which provides some insulation against the heat to the rooms below. This cavity is often vented with a roof ventilator designed to extract the hot air which collects in there.

Although Queenslanders have narrow eaves, window hoods provide shelter to windows, and verandahs provide shelter to the internal rooms of the house.

How to do it

- Retain existing roof profiles when adding extensions.
- When adding extensions or re-roofing, use traditional looking galvanised iron sheeting.

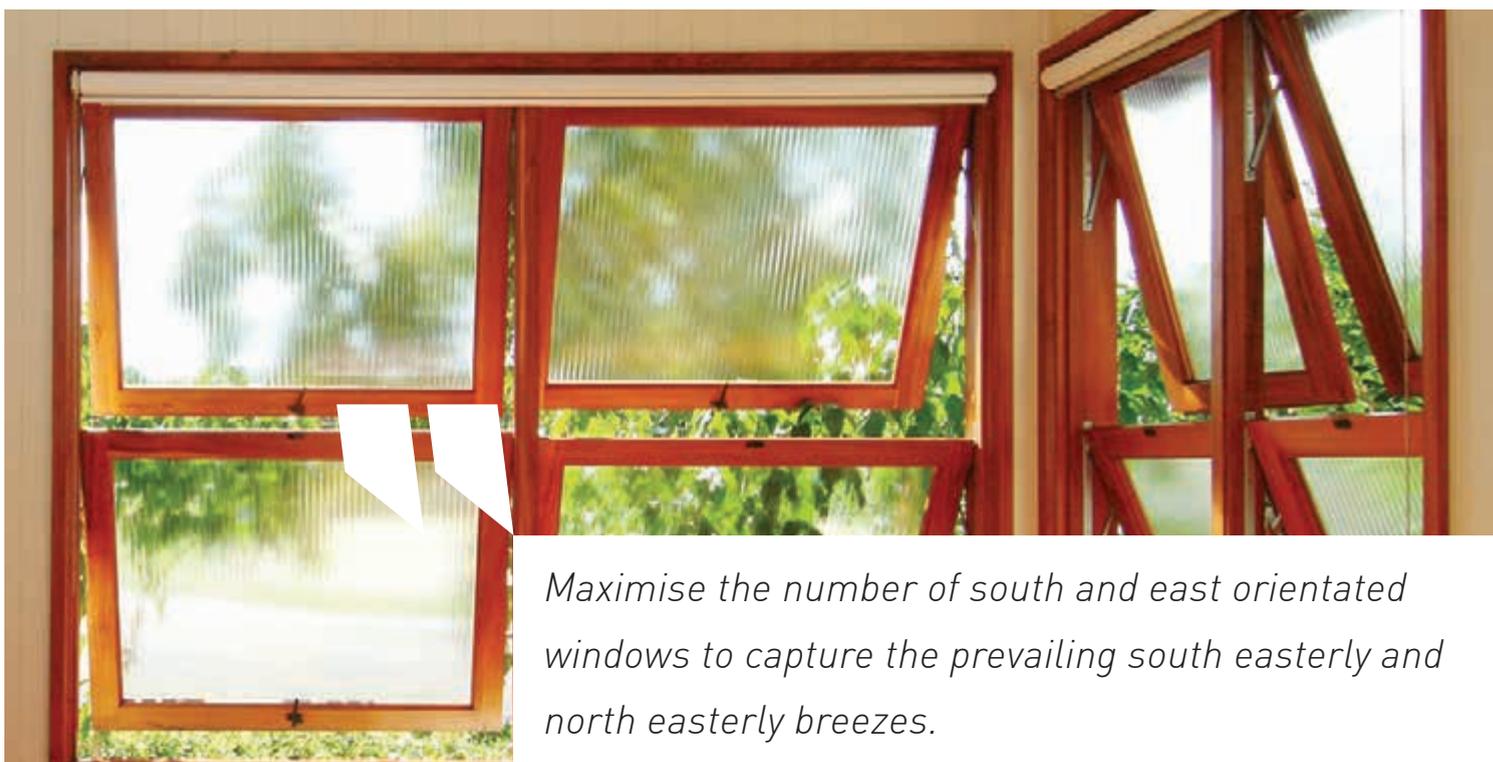


› · *Include roof ventilators at the highest point of the roof and vented gables to assist in cooling the roof cavity.*

· *Traditional gutter profiles should be used in extensions and re-guttering. In Queensland, two styles of gutter were common: ogee and quad.*

A variety of roofing profiles are part of the charm in regional variations of old Queensland houses and should always be carefully preserved when re-roofing.

The National Trust of Queensland



Maximise the number of south and east orientated windows to capture the prevailing south easterly and north easterly breezes.



WINDOWS AND AWNINGS

The two most common window types in Queenslanders are casement windows and louvres, usually timber louvres. These window types can be angled to catch breezes whilst keeping out rain and can be left open during the hot wet season. Awnings positioned above windows provide further protection against rain and sun, particularly on gable end walls.

Through the use of patterned and coloured glass, casements are also used to regulate light without the need for blinds or curtains which block breezes. Double hung and hopper or awning windows are also used, but are less effective at catching breezes and keeping rain out, and so are less common.

Why it is important

Casement windows and louvres contribute to the distinct style of Cairns Queenslanders. In particular, the long rectangular shape of casements create a distinct architectural pattern, which is further enhanced by the light and shade effect created when the windows are open. Variety between houses is achieved by the use of coloured and textured glasses and a variety of arrangements for mullions and glazing bars. Louvre windows are of a similar rectangle scale to casement windows and, again, the open windows create interesting textures of light and shade that contribute to the overall style. Awnings made of timber and tin come in many different styles and give individual character to houses. Awnings also

contribute to the style and character by breaking up the face of the building and casting deep shadows.

How to do it

- *Reinstate casement windows where these have been removed or restore damaged windows. Although second hand windows are becoming difficult to find, they can still be sourced. Alternatively, new casement windows can be purchased.*
- *Use window awnings that complement traditional elements.*
- *Use windows that can be left open in the rain and locate them where they will catch the breeze.*

Tips

- *Maximise openings to enable cross ventilation. This assists to naturally cool dwellings.*
- *Maximise the number of south and east orientated windows to capture the prevailing south easterly and north easterly breezes.*
- *Increase natural ventilation by reducing barriers to air movements through the house thus creating flow paths through the dwelling.*
- *Provide fans to improve ventilation and air movement in the absence of breezes.*
- *Look for detail of window awnings and casement windows in old photographs.*



VERANDAHS

Verandahs are a significant architectural element of traditional Queensland houses and were built at the front, sides and/or back of houses. In Cairns the verandah was usually enclosed or partly enclosed with louvres, lattice or casement windows creating deep shade and privacy for occupants.

Why it is important

Enclosing all or part of the verandah with lattice, louvres or battens provides privacy, refuge from the elements (sun and rain) and allows access to cooling breezes enabling the verandah to be used as an extended living and sleeping area throughout the summer months. Front verandahs contribute to a safer street and

assist residents to make neighbourhoods more social and secure by providing opportunities for interaction and passive surveillance.

How to do it

- *Partially enclose verandahs with a proportion of lightweight materials such as louvres, lattice or batten screens positioned to provide privacy from neighbouring developments and relief from the sun.*
- *Incorporate a traditional balustrade and handrails. Handrails were often simple curves or waist shapes.*
- *The addition of a ceiling fan/s and strategically positioned vegetation*

to shade the verandah will make the verandah more attractive and functional in the summer months.

- *Include hanging planter baskets on the perimeter of outdoor areas.*
- *When designing a new verandah or deck consider summer sun positions and access to cooling breezes.*

Tips

- *Include ceiling fans and insulate roofs where possible to keep the verandah cool.*
- *Avoid locating air conditioning units on or adjacent to verandahs as this greatly reduces the verandah's liveability.* >



- *Ensure new verandahs have an area large enough to provide protection from the weather and accommodate tables and chairs and other furnishings. A dimension of 3m x 3m should be used as a guide to a minimum useable verandah.*
- *Avoid using contemporary materials such as wire rope and aluminium framed windows on verandahs visible from the street as these materials*

are inconsistent with the traditional character of Cairns Queenslanders.

If there is no evidence of the original balustrade look at examples on similar Queenslanders in your neighbourhood or old photographs. 'The Cairns Historical Society' has a large collection of photographs.



Garages and carports positioned at the front of Queenslanders often have negative impacts on the character of the house and upset the pattern of the streetscape.



GARAGES

Cairns Queenslanders were rarely constructed with garages or carports as private ownership of motor vehicles was not common at the time of construction. As vehicle ownership increased, cars were often stored in the open area underneath the house and in some instances garages were added at the rear of the property.

This ensured that the rhythm of the streetscape was not interrupted by outbuildings or garages.

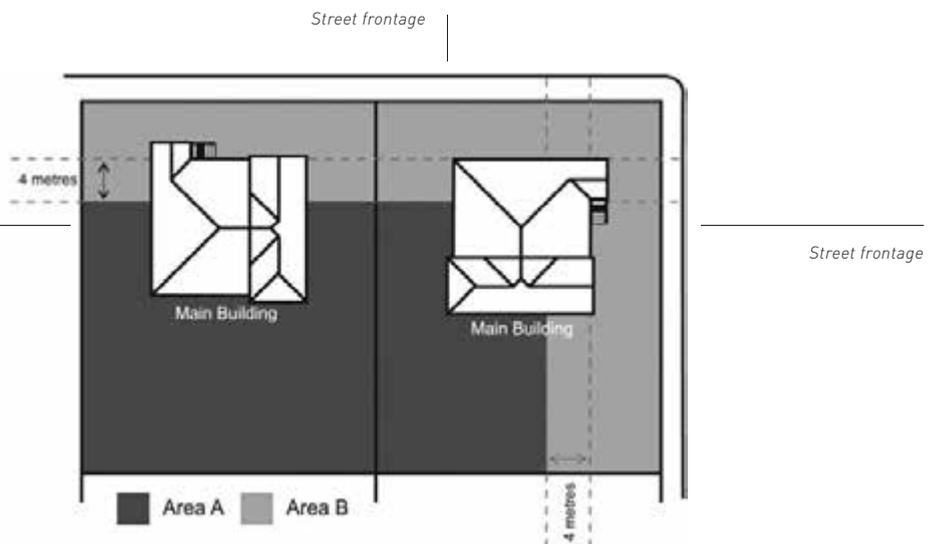
Why it is important

When locating garages / carports it is essential to maintain the rhythm of the streetscape by not constructing structures that dominate, interrupt or detract from the character of the existing house. This ensures that the character of the Cairns Queenslander house is maintained.

How to do it

- *Garages / carports should be located either underneath the house or at the rear or side of the house.*
- *Where the construction of garages / carports is required in front of the house due to access or other constraints, solid walls and garage doors should not be included. Batten screening and lattice should be used as an alternative material.*
- *Design the structure with a low roof profile to avoid obscuring the view of the house from the street.*
- *Use lightweight materials consistent with the house.*
- *Effective landscaping and design can soften the impact of the garage on the streetscape.*

To maintain streetscape rhythm, garages and carports should be constructed in Area A of the diagram, or underneath the house where this is possible





FENCES

Front fences, gates and gate houses are important elements in the appearance of Cairns Queenslanders and traditional Cairns streetscapes. Front fences were approximately 1.2 metres (4 feet) in height and were constructed from a variety of materials including timber pickets, concrete, wire mesh and steel tubing. The design of the front fence often indicated the social status of the property owner and grander homes often featured fences constructed of stone or decorative iron work.

Why it is important

Traditionally, a front fence indicated the boundary of a lot. The fences were low and visually permeable ensuring front yards were visible from the street. Consequently streets were places of chance social interactions and subject to passive surveillance from residents working in their gardens and relaxing on verandahs.

How to do it

- *Select a design, colours and materials that are consistent with your house.*

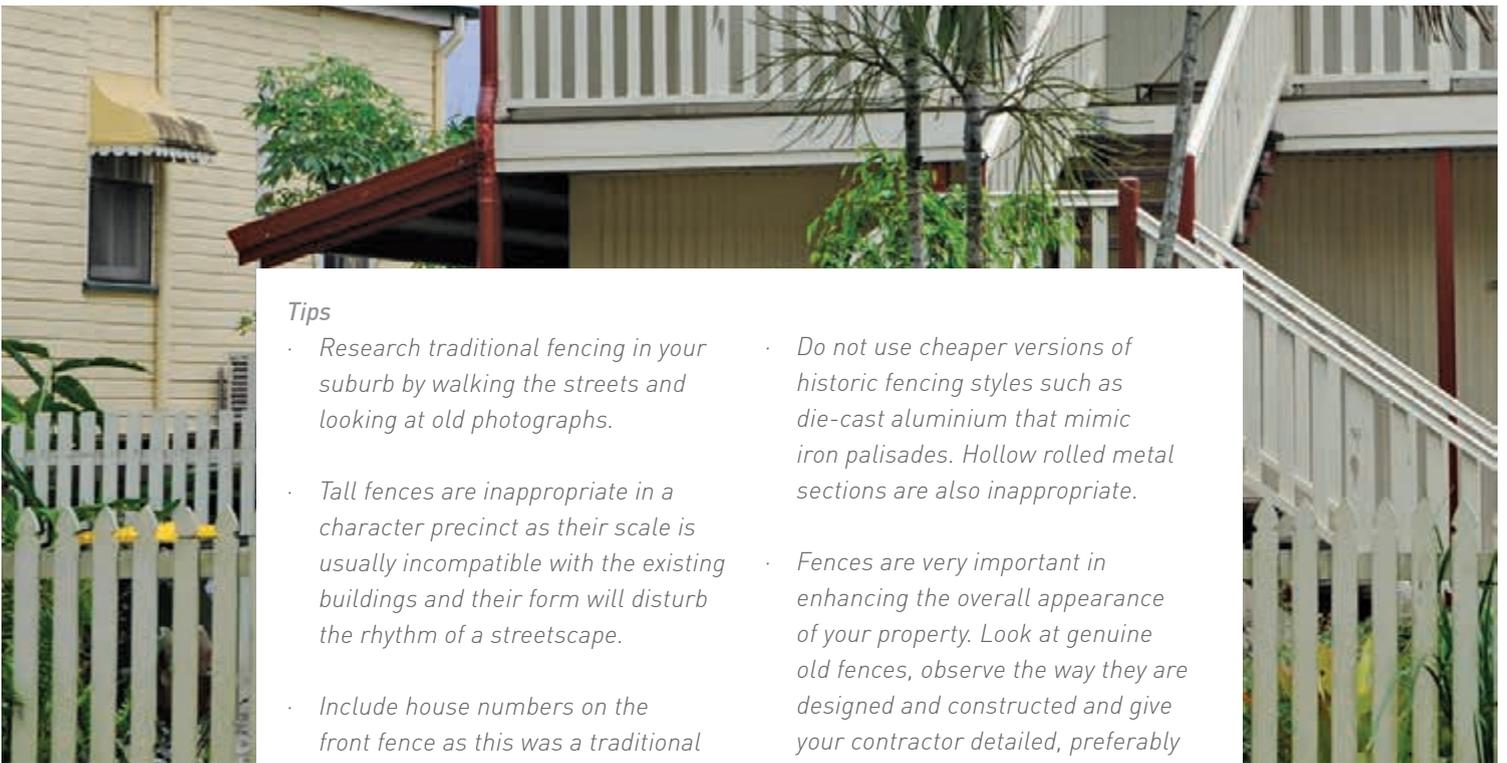
- *Look at early photographs of houses in your suburb showing examples of fences to identify an appropriate scale and materials. Contemporary materials in the fence's design will diminish the character of the Queenslanders and the street.*

- *The new fence should not be a replica of a fence from other regions.*

- *1.8 metre (6 foot) fences should be avoided on the front boundary as this greatly reduces the view of the house and has negative impacts on the streetscape.*

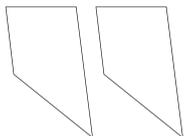
- *Where a 1.8 metre (6 foot) fence is required, the fence should have high transparency to ensure it does not detract from the streetscape.*

- *Effective landscaping is also a way to maintain privacy and amenity on smaller fences whilst not detracting from the streetscape.*



Tips

- Research traditional fencing in your suburb by walking the streets and looking at old photographs.
- Tall fences are inappropriate in a character precinct as their scale is usually incompatible with the existing buildings and their form will disturb the rhythm of a streetscape.
- Include house numbers on the front fence as this was a traditional practice.
- Local fence shops supply a variety of picket and post types and other materials that are appropriate to use in new fences in character precincts.
- Do not use cheaper versions of historic fencing styles such as die-cast aluminium that mimic iron palisades. Hollow rolled metal sections are also inappropriate.
- Fences are very important in enhancing the overall appearance of your property. Look at genuine old fences, observe the way they are designed and constructed and give your contractor detailed, preferably written and/or drawn, instructions on your requirements.



Increasing the height of a fence often detracts from the appearance of the place. Owners should research and establish the appropriate proportions.



Traditional colours were simple and light. Variations of white and light pastel colours such as blues, purples and mint green look attractive in the bright winter sunlight.



COLOURS

Traditionally timber buildings in North Queensland were painted in white or light colours to reflect the heat. The use of these colours is a widespread practice in tropical areas. This creates a pattern of light and shadow when combined with the shaded recesses of verandahs and undercrofts.

Many rendered brick buildings were painted a light ochre or stone grey to emulate stone.

Why it is important

The 'tropical style' of Cairns is strengthened by a good and memorable palette of colours and materials. White remains a contemporary 'classic' and retains a popularity for residents restoring Cairns Queenslanders.

How to do it

Traditional colours were simple and light. Variations of white and light pastel colours such as blues, purples and mint green look attractive in the bright winter sunlight and can be invigorating in the gloomy wet season.

- *Avoid Southern 'heritage' colours including yellow ochres, trims of dark greens, browns and reds which originated in different climatic conditions. Dark colours such as grey and purples currently fashionable in the more urban settings of inner city Melbourne or Sydney can look very oppressive in the Far North's bright sunlight and gloomy in the wet season.*

- *Use a combination of pale colours on walls and bright colours to accentuate the trims. Southern Australian heritage colour schemes are not characteristic of our tropical region and diminish our regional style. These colour schemes should be avoided.*



BUILDING IN UNDERNEATH

Cairns Queenslanders are typically single storey residential buildings, raised up to 2 metres off the ground with an open lower storey. Over time, it has become increasingly desirable to enclose the lower storey of these houses to cater for growth in family size and changing land uses.

Why it is important

As Cairns Queenslanders were not typically enclosed underneath, consideration must

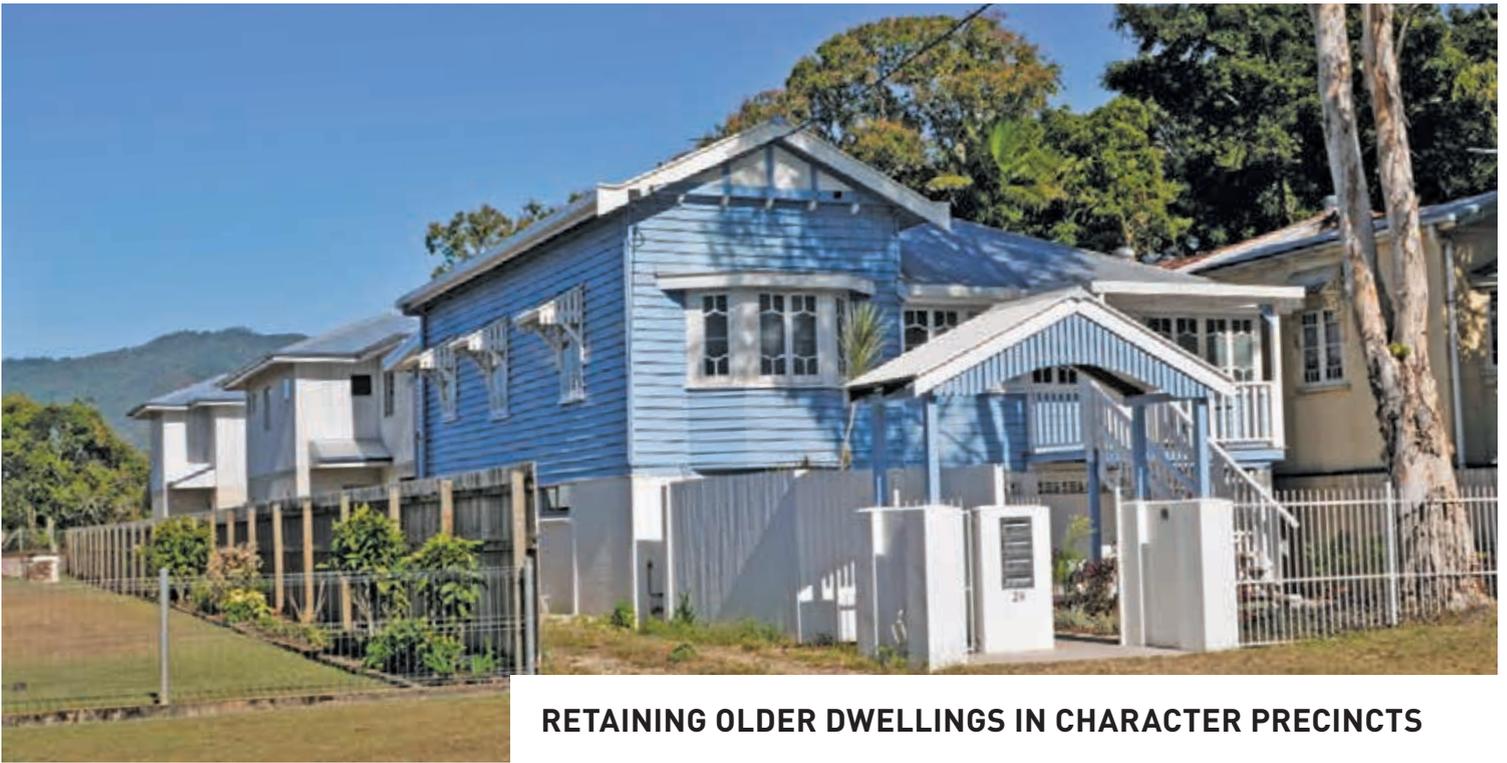
be made to the design of the house to ensure that the materials used and the design complement the existing building form. Inappropriate modifications to houses can have detrimental impacts on the character values of the house and the streetscape as raised buildings and under story mass can be out of scale and context.

How to do it

· Setback lower level walls from the front plane of the upper level to reduce

the mass of the building. This can be effectively achieved by recessing the lower level to a distance of at least one metre from the front plane.

· The use of materials that are consistent with the existing materials is recommended. If using masonry block or brick consider rendering it to achieve a flat painted look that is more complementary to the style of the Cairns Queensland.



RETAINING OLDER DWELLINGS IN CHARACTER PRECINCTS



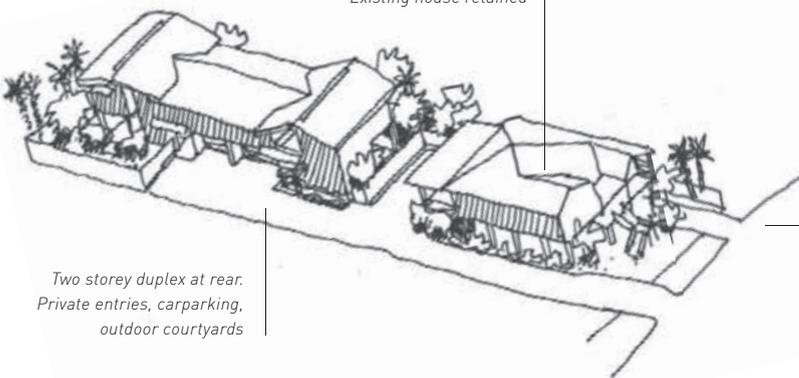
The introduction of the Multiple Dwelling (Small Scale Development) Code in CairnsPlan in 2009 provides an opportunity to increase density in established residential areas, without having a significant impact on the streetscape and character values of the neighbourhood.

The code encourages the development of diverse housing options in both established and new residential areas and where in a Character Precinct, existing buildings are retained and reused. Maintaining existing character buildings ensures streetscape values

are maintained through the retention of the existing character building to the front of the property, with new development to the rear where possible. This form of development offers an alternative to developing larger scale multiple dwellings and ensures the streetscape character is maintained.

The retention and sensitive management of character precincts assists in conserving living examples of the early character and architecture of Cairns.

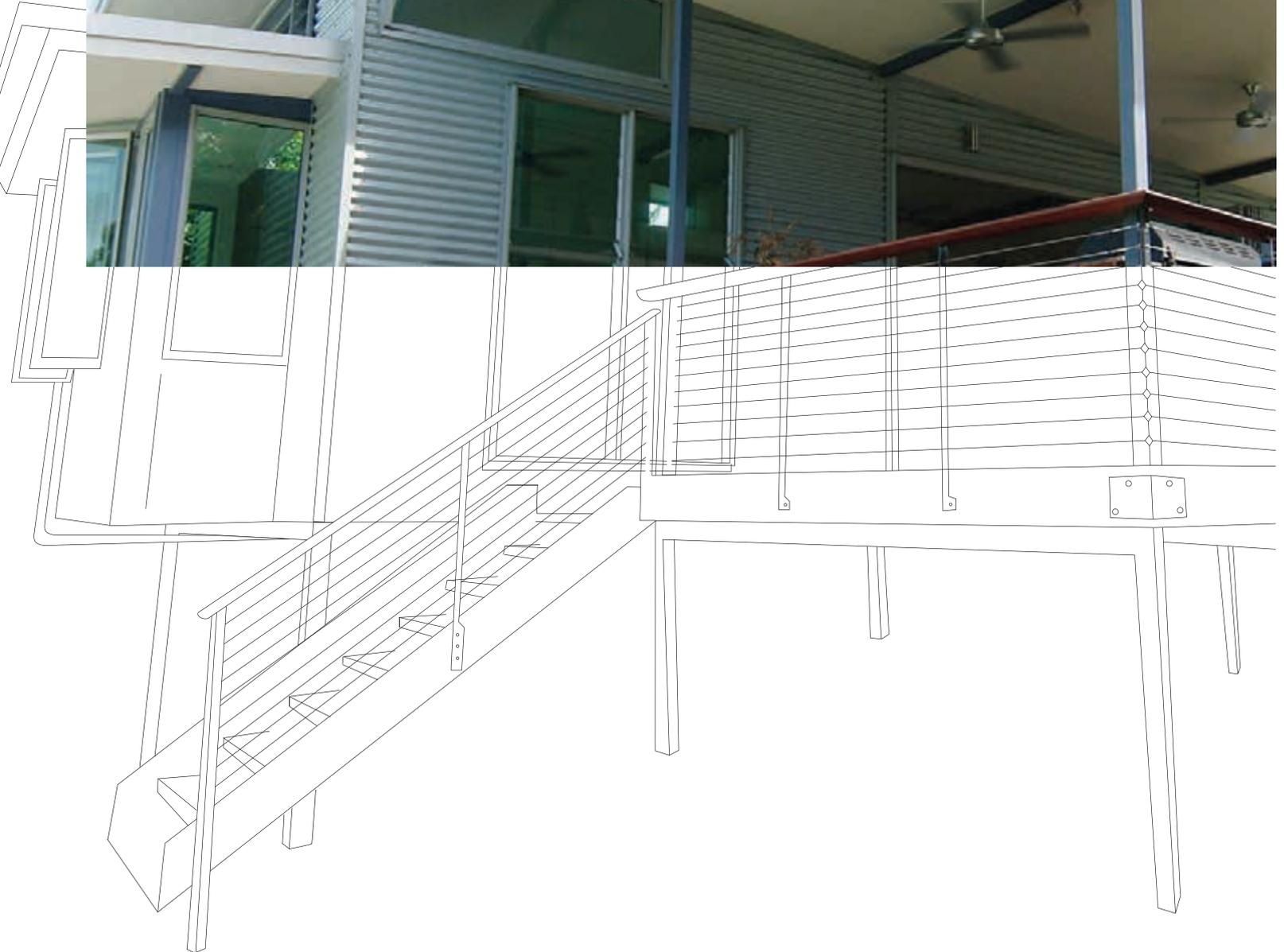
Existing house retained



*Two storey duplex at rear.
Private entries, carparking,
outdoor courtyards*



*Narrow frontage site
15-18m nominal*





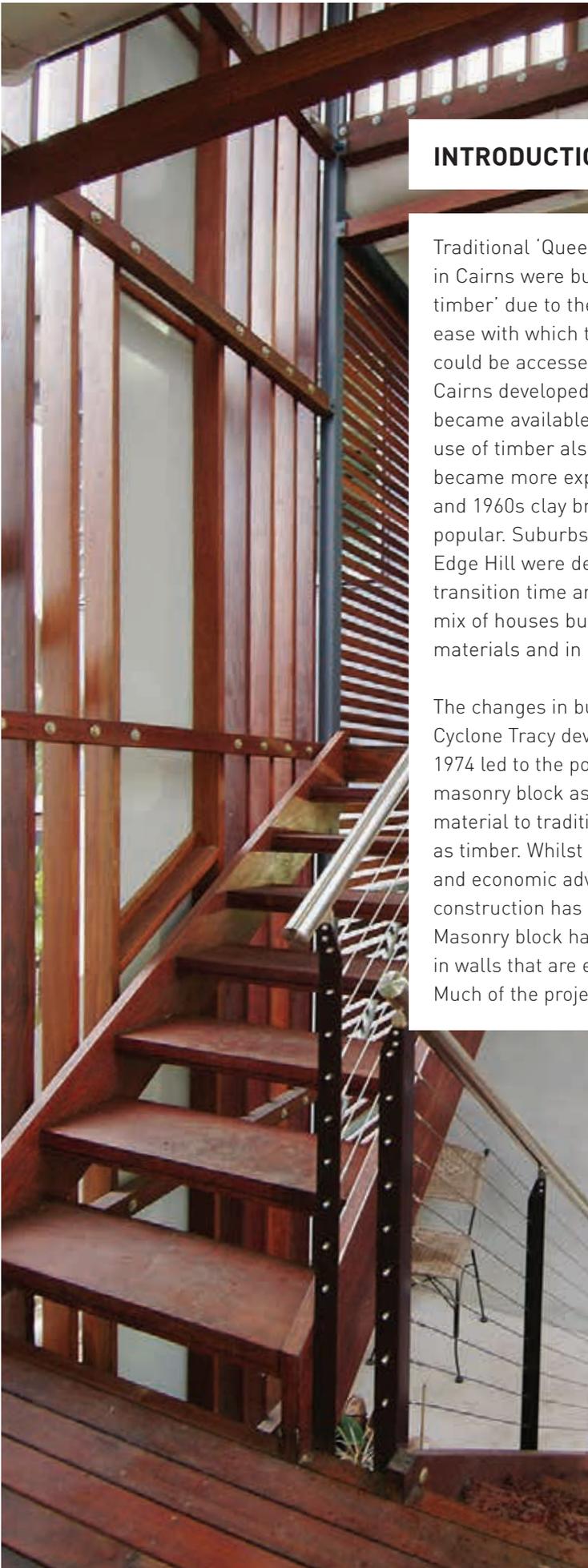
CONTEMPORARY HOUSES

CONTENTS

3.1_INTRODUCTION	41
3.2_ROOF PROFILES & EAVES	43
3.3_WINDOWS & AWNINGS	44
3.4_OUTDOOR ROOMS	47
3.5_COLOURS	49
3.6_MATERIALS	50
3.7_FENCES	51
3.8_GARAGES	53



It is essential that contemporary houses interpret the key features and design elements found in the older buildings in contemporary ways.



INTRODUCTION

Traditional 'Queenslander' houses in Cairns were built from 'tin & timber' due to the cheap cost and ease with which these materials could be accessed. As the economy of Cairns developed, different materials became available and popular. The use of timber also decreased as it became more expensive. In the 1950s and 1960s clay brick became more popular. Suburbs such as Whitfield and Edge Hill were developed during this transition time and have an interesting mix of houses built out of different materials and in different styles.

The changes in building codes after Cyclone Tracy devastated Darwin in 1974 led to the popularity of concrete masonry block as a preferred building material to traditional materials such as timber. Whilst having practical and economic advantages, block construction has some disadvantages. Masonry block has high heat retention in walls that are exposed to the sun. Much of the project style housing

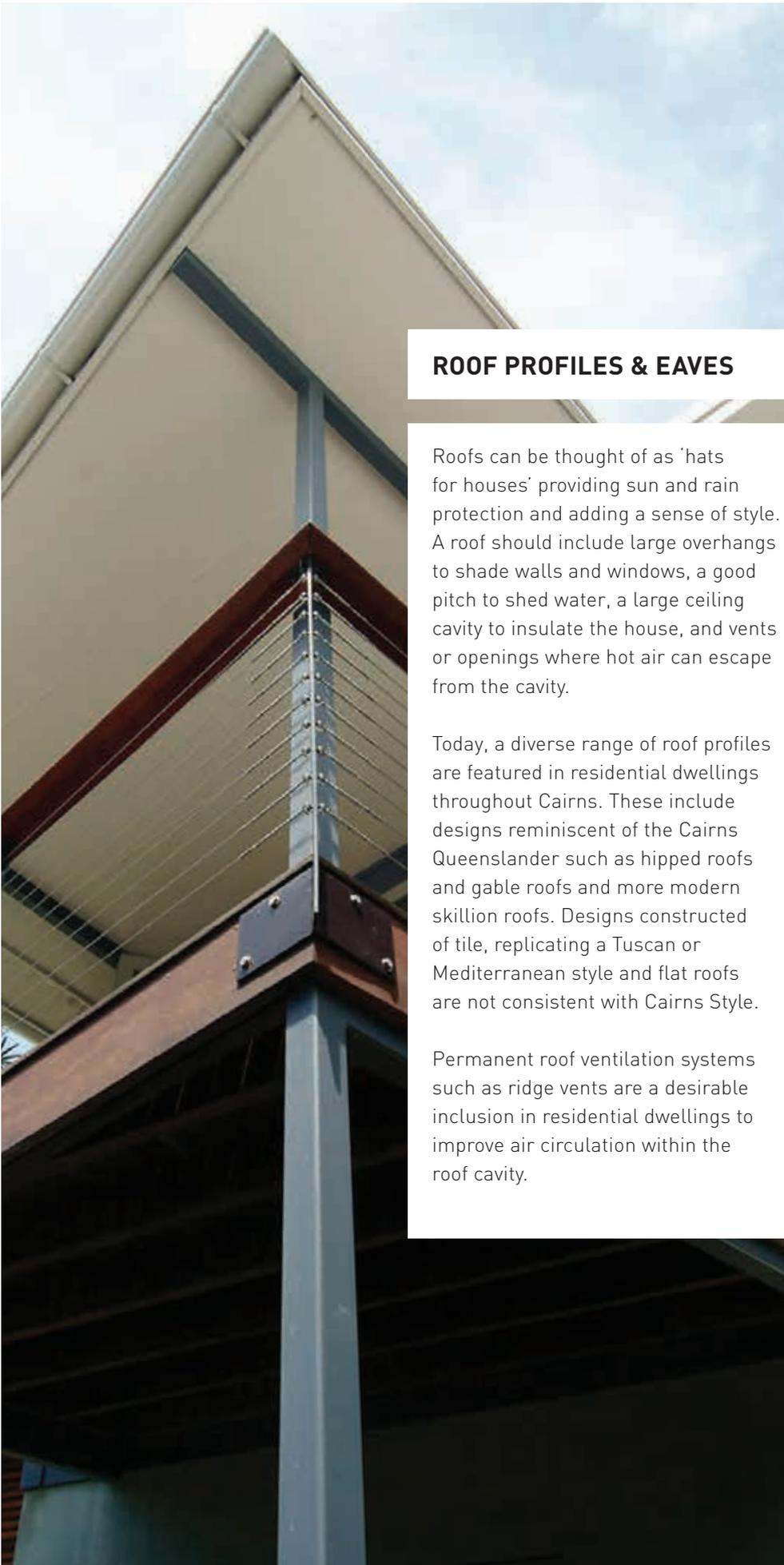
developed throughout the 1980s and 1990s used masonry block, negatively impacting on the regional character and creating a dependence on mechanical cooling. Contemporary houses should not 'copy' or 'mimic' old houses. It is essential that contemporary houses interpret the key features and design elements found in the older buildings in contemporary ways.

Recently, building designers and architects have returned to traditional materials reminiscent of traditional Cairns architecture such as mini orb, timber cladding, louvres, batten screening and window hoods and this is desirable. Through the inclusion of these traditional materials, elements that contribute to a liveable dwelling and a recognisable Cairns Style can be continued and the region's style can be strengthened.



“

Roofs can be thought of as 'hats for houses' providing sun and rain protection and adding a sense of style.



ROOF PROFILES & EAVES

Roofs can be thought of as 'hats for houses' providing sun and rain protection and adding a sense of style. A roof should include large overhangs to shade walls and windows, a good pitch to shed water, a large ceiling cavity to insulate the house, and vents or openings where hot air can escape from the cavity.

Today, a diverse range of roof profiles are featured in residential dwellings throughout Cairns. These include designs reminiscent of the Cairns Queenslander such as hipped roofs and gable roofs and more modern skillion roofs. Designs constructed of tile, replicating a Tuscan or Mediterranean style and flat roofs are not consistent with Cairns Style.

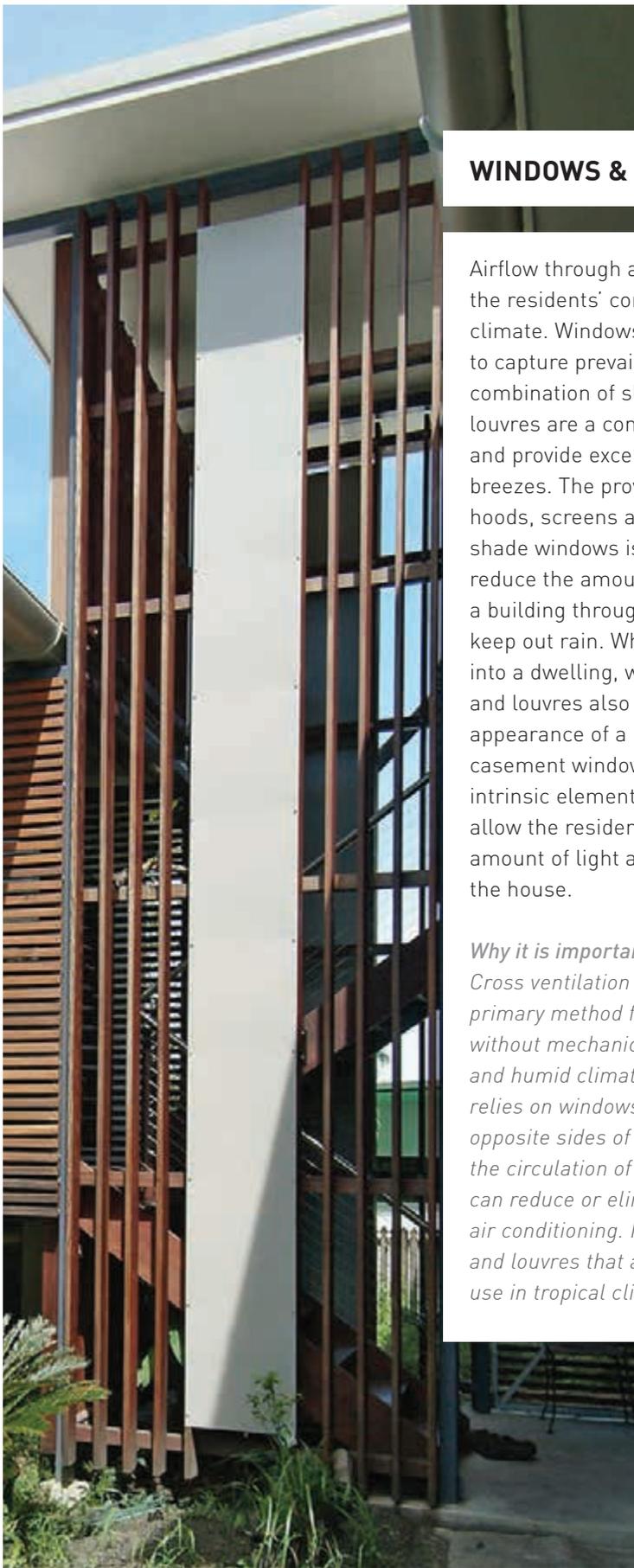
Permanent roof ventilation systems such as ridge vents are a desirable inclusion in residential dwellings to improve air circulation within the roof cavity.

Why is it important

Roof profiles contribute significantly to the character of dwellings and have a major bearing on the pattern of the streetscape. Gable and hipped roofs create large cavities of roof space, which provide insulation against heat transfer from the roof to the rooms below. It has been acknowledged in recent years that larger eaves contribute to improved liveability of dwellings as they assist in reducing internal heat loads by protecting walls from direct sun and provide protection to open windows from rain.

How to do it

- *Include roof ventilators at the highest point of the roof and vented gables to assist in cooling the roof cavity.*
- *Incorporate wide eaves (at least 800mm) to shade exterior walls and windows.*
- *Incorporate pitched roofs to maximise the size of the roof cavity.*



WINDOWS & AWNINGS

Airflow through a dwelling is key to the residents' comfort in our tropical climate. Windows that can be angled to capture prevailing breezes, or a combination of sliding windows and louvres are a common design response and provide excellent access to cooling breezes. The provision of window hoods, screens and wide eaves to shade windows is an effective way to reduce the amount of heat entering a building through windows, and to keep out rain. While allowing breezes into a dwelling, windows, awnings and louvres also contribute to the appearance of a house. Louvres and casement windows in particular are an intrinsic element of Cairns Style and allow the resident to vary the amount of light and breeze entering the house.

Why it is important

Cross ventilation (passive cooling) is the primary method for cooling buildings without mechanical assistance in hot and humid climates. Cross ventilation relies on windows, doors or vents on opposite sides of a building to facilitate the circulation of air. Passive cooling can reduce or eliminate the need for air conditioning. Incorporating windows and louvres that are designed for use in tropical climates and reflect

traditional responses will not only assist in the passive cooling of a house but strengthen the region's style.

How to do it

- *Incorporate windows such as louvres and casements that can be opened to catch and direct breeze.*
- *Provide window hoods or wide eaves to provide shade and protection from rain to all window openings.*
- *Design dwellings to incorporate openings in opposing walls to promote cross ventilation.*
- *Consider the orientation of the building and avoid positioning large areas of glass along the western aspect of buildings.*
- *Maximise the number of south-east and north-east orientated windows to capture the prevailing south-easterly and north-easterly breezes.*





When designed and positioned appropriately, outdoor rooms will provide residents with privacy, access to cooling breezes and a refuge from the intense heat.



OUTDOOR ROOMS

Verandahs are a significant architectural element of Cairns Queenslanders. This design element has been carried through to contemporary residential dwellings in the form of outdoor rooms that are often referred to as balconies, patios or outdoor entertainment areas. Traditionally, the verandah was located at the front and side of Queenslanders.

The contemporary response is to include these areas at the rear of the property to provide residents with privacy.

This is unfortunate because front verandahs contribute to a safer street and assist residents to make neighbourhoods more social and secure by providing opportunities for casual interaction and passive surveillance.

Why it is important

When designed and positioned appropriately, outdoor rooms will provide residents with privacy, access to cooling breezes and a refuge from the intense heat and wet

season deluge associated with the tropical climate. Well designed outdoor rooms provide for year-round outdoor living.

How to do it

- *Include ceiling fans to make the area more attractive and functional in the summer months.*
- *Consider summer sun positions and access to cooling breezes when designing your dwelling.*
- *Ensure ceiling heights are comparable to internal living spaces to avoid a sense of enclosure.*

Tips

- *Insulate roofs to increase the functionality of the space throughout the year.*
- *Avoid locating air conditioning units on or adjacent to outdoor rooms as this greatly reduces the liveability of the area.*

- *Locating balconies at the front of dwellings increases opportunities for passive surveillance of the street, and increases social opportunity in the street.*

- *Ensure outdoor rooms have an area large enough to provide protection from the weather and to contain tables and chairs and other furnishings.*

- *A minimum dimension of four metres should be used as a guide to a minimum useable space to contain pot plants, planter boxes and furniture.*

- *Incorporate screening or dense vegetation to shade outdoor areas and provide privacy where necessary.*





Light and bright colours reflect the heat, contrast well with building shadows and green tropical foliage, and provide visual relief during extended overcast periods.



COLOURS

Traditional Cairns colours are simple, light and bright and are a popular choice for housing in Cairns and other tropical areas. Light and bright colours reflect the heat, contrast well with building shadows and green tropical foliage, and provide visual relief during extended overcast periods. In recent years in Cairns there has been a trend toward darker colours derived from contemporary design in colder climates. These darker colour schemes are not consistent with Cairns' history and detract from the tropical style of Cairns.

Why it is important

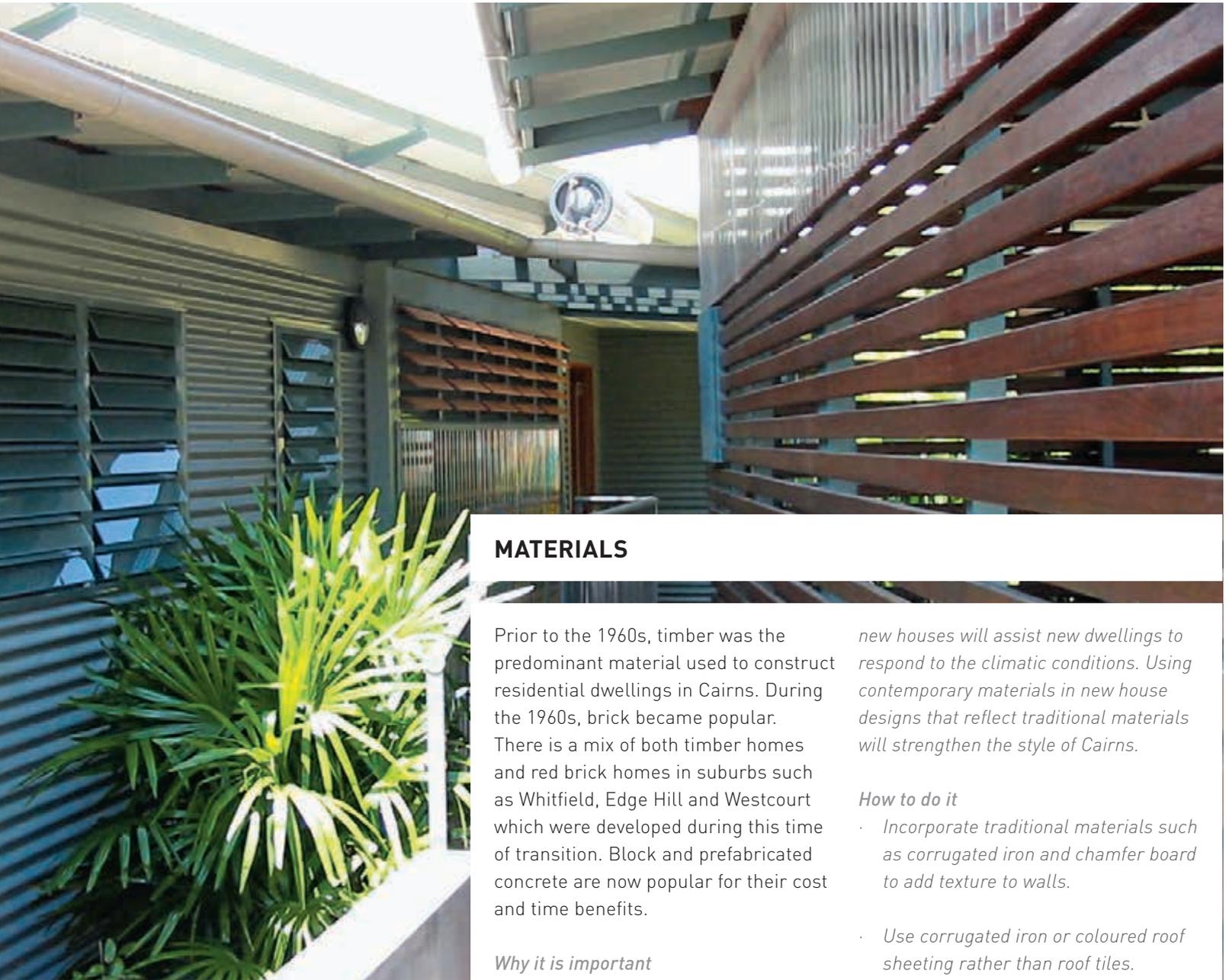
The tropical image of Cairns is strengthened by a vibrant and memorable palette of colours and

materials taking cues from the surrounding natural environment. Variations of light and bright colours such as blues, purples and greens look attractive in the bright winter sunlight and can be uplifting in the wet season.

How to do it

- *Choose light colours to reflect heat.*
- *Use trim colours to create interest and emphasise architectural features.*
- *In hillslope areas light coloured external surfaces, especially roofs, can overpower the surrounding landscape, and are not supported under Council's Hillslopes Code.*

When in a hillslope area use non reflective colours that are finished in a low contrast that blends with the surrounding vegetation and landscape. This will ensure the visual amenity quality of the hillslope is retained.



MATERIALS

Prior to the 1960s, timber was the predominant material used to construct residential dwellings in Cairns. During the 1960s, brick became popular. There is a mix of both timber homes and red brick homes in suburbs such as Whitfield, Edge Hill and Westcourt which were developed during this time of transition. Block and prefabricated concrete are now popular for their cost and time benefits.

Why it is important

The design and materials of Cairns Queenslanders evolved as a response to the local climate. Large numbers of contemporary dwellings in new subdivisions fail to incorporate traditional design solutions and materials, instead relying on mechanical cooling to provide comfort to residents throughout the summer months. Running air conditioners has financial costs to the resident and environmental costs through increased energy consumption and subsequent greenhouse gas emissions. Incorporating traditional design ideas in

new houses will assist new dwellings to respond to the climatic conditions. Using contemporary materials in new house designs that reflect traditional materials will strengthen the style of Cairns.

How to do it

- *Incorporate traditional materials such as corrugated iron and chamfer board to add texture to walls.*
- *Use corrugated iron or coloured roof sheeting rather than roof tiles.*
- *When using new materials, consider products that complement the traditional appearance and form of traditional materials.*
- *Render block walls and paint in light and bright colours. Appropriate colours are discussed in the section on colours.*
- *Use timber batten screens to improve privacy and add texture and visual interest to your house.*

FENCES

Front fences can enhance or spoil a streetscape. Fences should be low and contribute to the aesthetics of a dwelling. They should allow the passer-by to see into the front yard and view the house. There are many examples throughout the region of 1.8 metre (6 foot) timber and masonry front fences erected to the detriment of the streetscape. These streetscapes or 'fencescapes' are unsightly, uninteresting and uninviting for users of the street. Often, contemporary residential dwellings do not feature front fences, instead delineating the line between private and public space with tropical landscaping. This is a desirable outcome as it creates visually striking, interesting and inviting streetscapes

of lush street frontages consisting of colourful and attractive vegetation.

Why it is important

Fences that are low and provide a visual connection between the street and the front of the house encourage social interaction between residents working in their gardens, passers by and allow passive surveillance of the street by residents creating safer communities.

How to do it

- *Plant a front garden to provide privacy and delineate the front boundary.*
- *Construct a low, visually permeable front fence where required.*

- *1.8 metre (6 foot) fences should be avoided on the front boundary as this greatly reduces the view of the house and has negative impacts on the streetscape.*
- *Where a 1.8 metre (6 foot) fence is required, the fence should have high transparency to ensure it does not detract from the streetscape.*
- *Effective landscaping is also a way to maintain privacy and amenity on smaller fences whilst not detracting from the streetscape.*





'Streets can often appear as just a series of garages, as though the street is really home to cars rather than people...' The National Office of Local Government

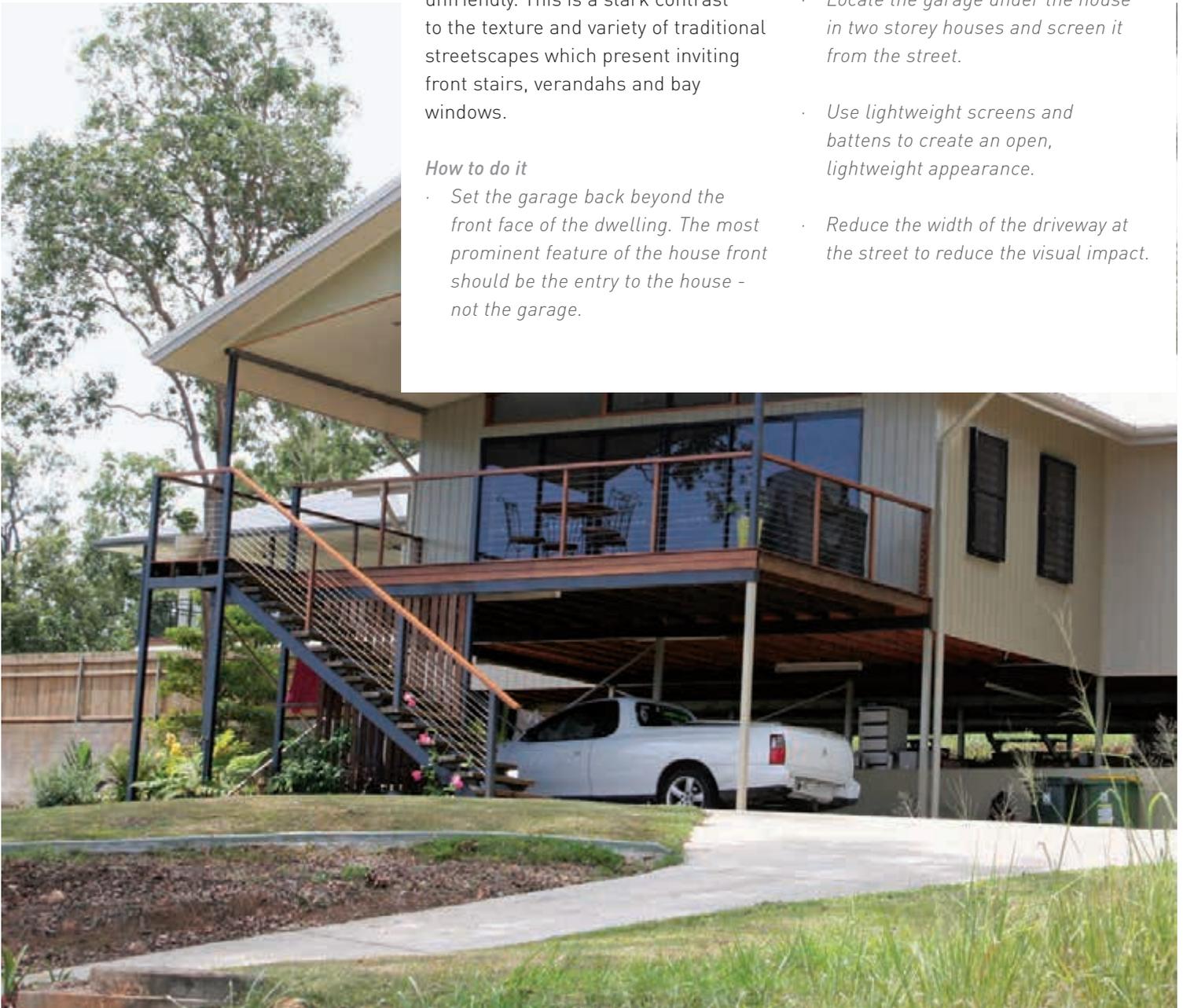


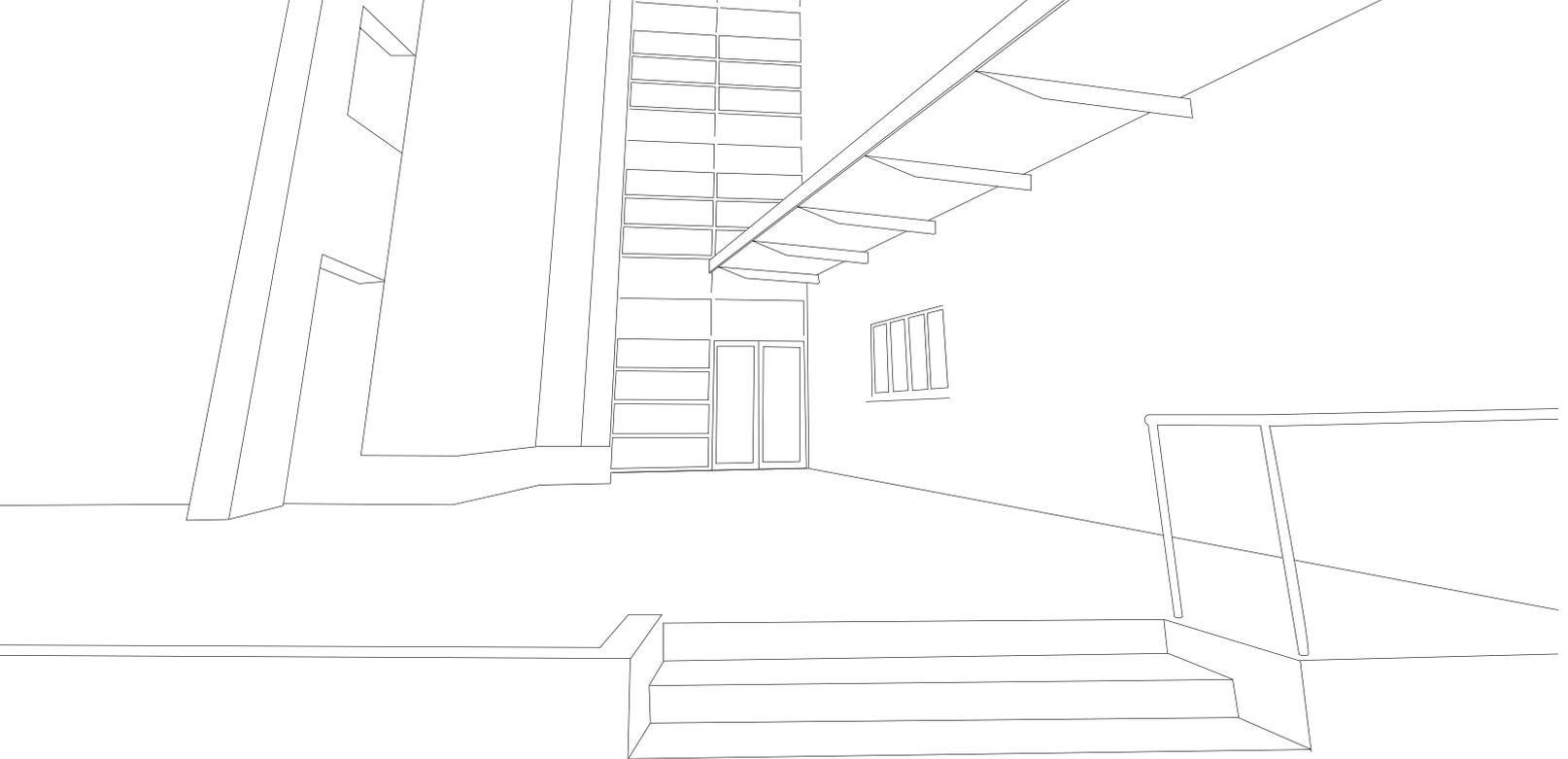
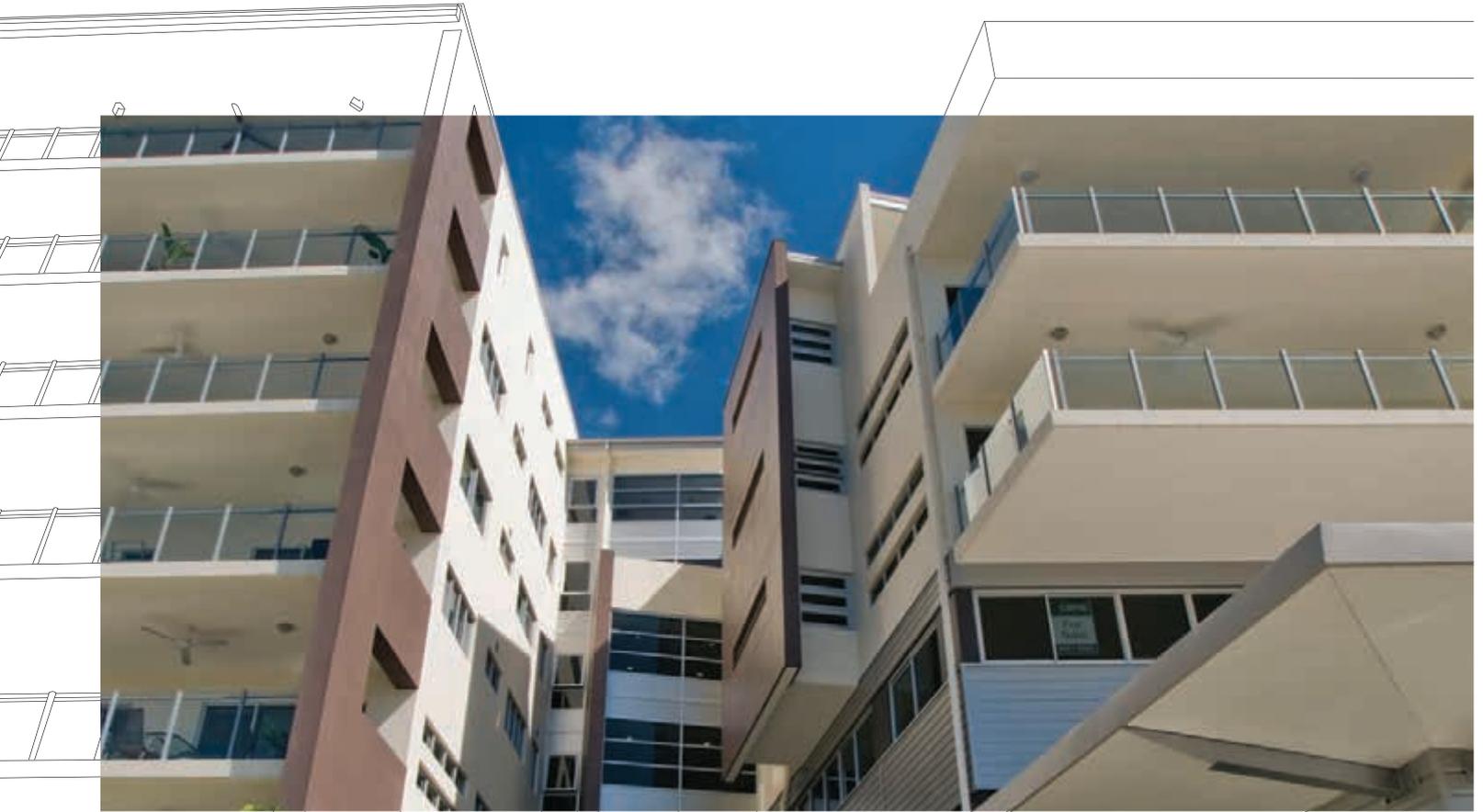
GARAGES

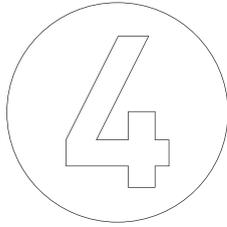
Modern streetscapes are frequently dominated by garages which can consume as much as 50% of the width of the property. Streetscapes dominated by the flat, blank faces of garages are uninteresting and unfriendly. This is a stark contrast to the texture and variety of traditional streetscapes which present inviting front stairs, verandahs and bay windows.

How to do it

- *Set the garage back beyond the front face of the dwelling. The most prominent feature of the house front should be the entry to the house - not the garage.*
- *Locate the garage at the side or rear with a single access. This has added benefits of maintaining access to the rear of the property for boats, caravans and other vehicles.*
- *Locate the garage under the house in two storey houses and screen it from the street.*
- *Use lightweight screens and battens to create an open, lightweight appearance.*
- *Reduce the width of the driveway at the street to reduce the visual impact.*







MULTIPLE DWELLINGS

CONTENTS

4.1_INTRODUCTION	57
4.2_ROOF PROFILES & EAVES	59
4.3_WINDOWS & AWNINGS	61
4.4_OUTDOOR ROOMS	63
4.5_MATERIALS	64
4.5_COLOURS	65
4.6_CHARACTER PATTERN	66



The use of features such as louvres, lattice, pitched roofs and awnings is reminiscent of traditional Cairns architecture.



INTRODUCTION

There were relatively few multi-unit developments in Cairns other than boarding houses or holiday bed and breakfast facilities, until the advent of the motel to accommodate caravan and car visitors to Cairns in the 1950s. The establishment of the Sheraton Mirage Resort in Port Douglas in the late 1980's triggered a boom period in Port Douglas which led to the establishment of higher density accommodation units and resorts.

Sheridan Street in Cairns North has a variety of motels from the 1950s to the 1970s and, whilst not all architecturally striking, they are of historical interest. Some of these earlier examples provided wide balconies and

overhanging eaves in response to the tropical climate.

Today, the demand for flats and apartments is high due to the changing social structure and demographics of the region's community. Demand is particularly high close to the Cairns city. Unfortunately this is also where much of the character housing in Cairns is situated. The development of large apartment buildings in traditional streetscapes has frequently had a detrimental effect on the character of these older streets. A continuity of rhythm and scale in a streetscape can be achieved through building footprints and the arrangement of windows, doors, verandahs and balconies. These design

elements assist to visually 'break down' a larger building into small sections of a similar scale to nearby buildings.

The use of features such as louvres, lattice, pitched roofs and awnings is reminiscent of traditional Cairns architecture. The 'theming' of buildings using Mediterranean, Balinese or other imported styles is also dissipating the local and regional character, and so further weakening the desired style of the region. Influences of Balinese or Mediterranean style are best left to ancillary structures and garden elements where the theme effect can be experienced without unduly detracting from the overall tropical Cairns Style.



Articulate the roof profile to add visual interest and break up the bulk of roof designs.



ROOF PROFILES & EAVES

Visible roof profiles contribute to a Cairns Style as do wide overhangs, cascading roof forms and forms reminiscent of Cairns Queenslanders such as hipped roofs and gable roofs on smaller developments. Important to the Cairns City's skyline are elaborate structures on towers in the CBD.

Roofs with a conservative pitch and those constructed of tile replicating a Tuscan or Mediterranean style are not representative of the region's tropical architecture and are inconsistent with the Cairns Style. Large, unbroken roof forms are also detrimental to Cairns Style.

Why it is important

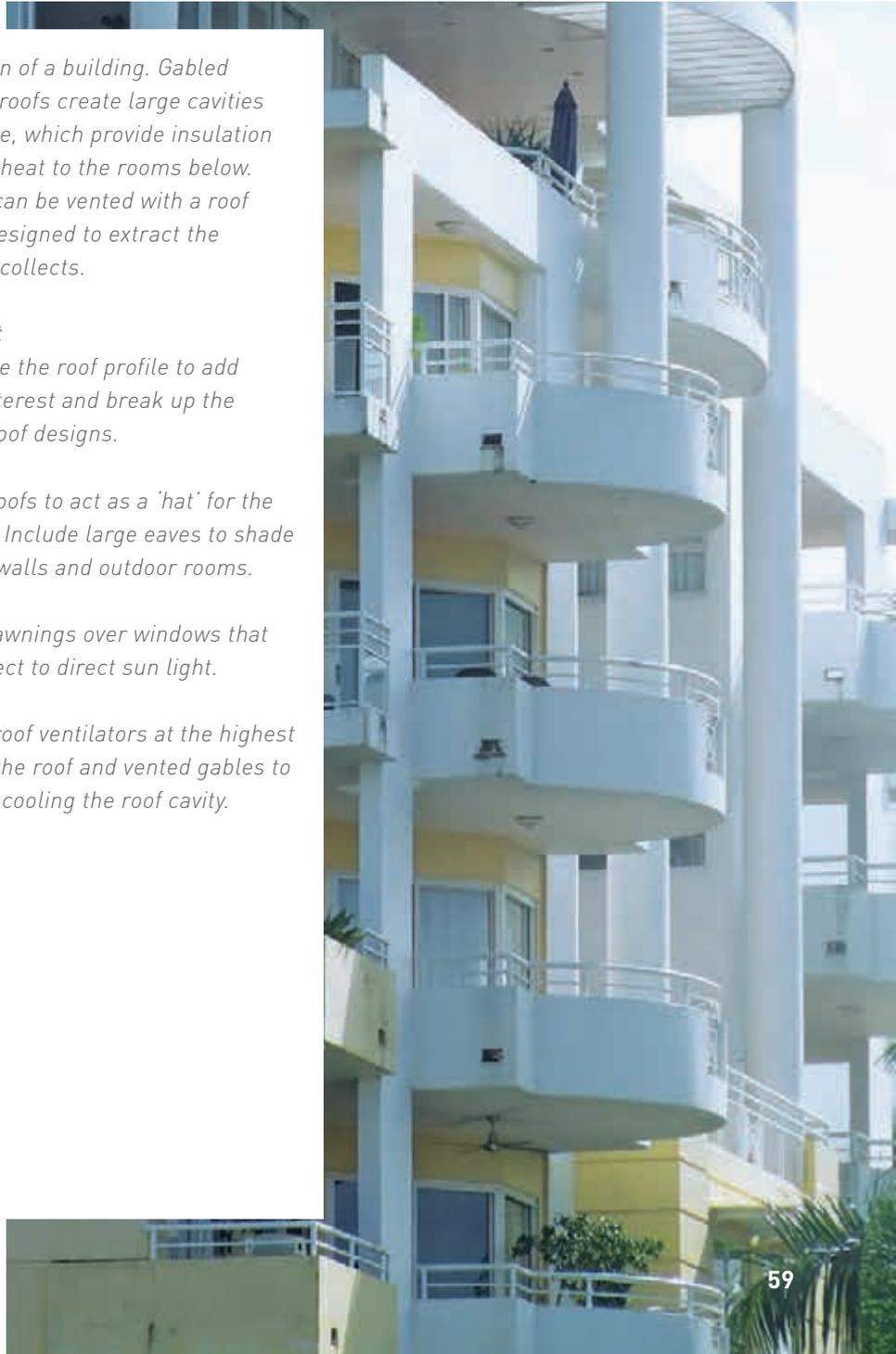
Unique and interesting roof designs on tall multi-unit buildings contribute to a distinct and memorable skyline. Roof designs also contribute significantly to the character of smaller multi-unit housing developments and have a major bearing on the scale and impact on the pattern of a streetscape.

For multi-unit developments in residential neighbourhoods, a cascading roof line can be an essential transition between such a development and the neighbouring detached houses. Appropriately designed roof structures have the ability to reduce energy

consumption of a building. Gabled and hipped roofs create large cavities of roof space, which provide insulation against the heat to the rooms below. This cavity can be vented with a roof ventilator designed to extract the hot air that collects.

How to do it

- *Articulate the roof profile to add visual interest and break up the bulk of roof designs.*
- *Design roofs to act as a 'hat' for the building. Include large eaves to shade exterior walls and outdoor rooms.*
- *Include awnings over windows that are subject to direct sun light.*
- *Include roof ventilators at the highest point of the roof and vented gables to assist in cooling the roof cavity.*





Windows and awnings contribute to the scale and appearance of the building.



WINDOWS & AWNINGS

The use of windows including casements and louvres in multi-unit dwellings has the same ventilation and thermal comfort benefits as in houses. This is particularly the case when windows are located to capture prevailing breezes and create cross ventilation within individual units. Awnings that shade windows not shaded by the roof further benefit the residents' comfort.

Multiple dwellings can readily include classic elements such as lattice, slats and louvres in a range of truly modern, functional and architecturally distinctive building enhancements that offer shade, shelter, security, privacy, decoration, adornment and individuality.

Windows and awnings contribute to the scale and appearance of the building. They deliver character and interest and also function and purpose.

Choosing window types, styles, sizes and arrangements that complement or reference traditional window types will make a positive contribution to Cairns Style. This is particularly important for developments in traditional streetscapes and character precincts.

Why it is important

The provision of external devices providing shading over windows is an effective way to reduce the amount of heat entering a building.

Natural ventilation is the primary method for cooling buildings without mechanical assistance in hot and humid climates.

Passive cooling can reduce or even eliminate the need for air conditioning. The best way to employ passive cooling is through openings in the form of windows, doors, louvres and screens.

How to do it

- *Provide window hoods or other devices to provide shade and protection from the rain to all window openings.*
- *Avoid positioning large areas of glass along the western aspects of buildings. Consider the orientation of the building.*
- *Maximise the number of south and east orientated windows to capture the prevailing south-easterly and north-easterly breezes.*
- *Units should be designed to incorporate openings at opposing sides to enable cross ventilation through dwellings.*



Verandahs and balconies are a significant element of the Cairns vernacular architecture and provide a distinctive expression.





OUTDOOR ROOMS

Verandahs and balconies are a significant architectural element of the Cairns vernacular architecture and provides a distinctive expression. They have also become a favoured living space of Cairns residents.

In multi-unit developments the inclusion of a generous balcony delivers a sense of open space and can provide much needed additional living space. Balconies or outdoor rooms, when designed thoughtfully, improve the aesthetics of a building and reduce the apparent mass through the articulation of the facade, the introduction of shaded spaces (as found in Queenslanders) and the use of different, lightweight materials and textures.

Why it is important

When designed and positioned appropriately, outdoor rooms will provide residents with privacy, access to cooling breezes and a refuge from the intense heat and wet season deluge associated with the tropical climate. Well designed outdoor rooms provide for year-round outdoor living.

How to do it

- *Include ceiling fans to make the area more usable in the summer months.*
- *Orientate units to avoid summer sun and obtain access to cooling breezes.*
- *Incorporate louvres, batten screens or bifold doors that can be adjusted to manipulate the climatic conditions and maintain privacy.*

- *Plant tropical vegetation to shade and cool outdoor rooms of first and second storey units.*
- *Ensure outdoor rooms have an area large enough to provide protection from the weather and to contain tables and chairs and other furnishings. A dimension of 3m x 3m should be used as a guide to a minimum useable space.*
- *Avoid locating air conditioning units on or adjacent to outdoor rooms as this greatly reduces the liveability of the area.*
- *Ensure all outdoor rooms/verandahs are afforded a roof to avoid rain penetration to areas below.*





MATERIALS

A limited range of materials are used for structural components of multi-unit housing developments with brick and block being the most prevalent construction method. Notwithstanding this, timber, steel, metal sheeting, louvres, chamfer board and glass are often included for awnings, gate-houses and to highlight architectural detail.

Why it is important

The use of a very limited palette of materials can make a building look plain and bulky. It is important when designing a scheme to incorporate a balanced mix of materials, textures and finishes, including materials derived from traditional buildings, in a consistent manner across the project. This will

result in a project that is stylistically cohesive but adds texture and scale to a streetscape.

How to do it

- *Block walls can be rendered and painted in light and bright colours appropriate for the tropics.*
- *Use chamfer board, corrugated iron or mini orb over block work to provide visual interest and to continue the use of materials and textures consistent with Cairns Queenslanders.*
- *Construct awnings of timber and metal sheeting. A combination of these materials enhances the architectural detail of buildings.*

- *Incorporate louvres or casement windows to add texture and style.*
- *Detail balustrades with materials or elements that complement and reference traditional housing.*
- *Incorporate timber batten screens to provide privacy, texture and visual interest.*



COLOURS

Traditional Cairns colours are simple, light and bright, typified by the use of white, cream and pastels. To the detriment of Cairns Style, many multi-unit developments have been constructed with a Mediterranean or Tuscan theme inconsistent with the region's style. Notwithstanding this, there are many examples that reflect the tropical Cairns Style.

Why it is important

The tropical style of Cairns is strengthened by a memorable palette of colours taking cues from the surrounding natural environment yet respectful of the region's traditional colour schemes.

Light coloured surfaces reflect heat, while dark surfaces absorb heat. Variations of light and bright colours look attractive in the bright winter sunlight and can be uplifting on overcast days frequent in the wet season.

How to do it

- *Choose light colours to reflect heat.*
- *Use colour trims to create interest and emphasise architectural features.*
- *Avoid using contemporary colours from southern areas as these originated in different climatic conditions representing different urban environments.*

CHARACTER PATTERN

The inner city suburbs of Cairns contain many older, character houses. The patterns and rhythms of these streets are an essential and defining component of Cairns Style. There is a high demand for units and other higher density residential forms in these areas which can conflict with the character and style of the older streetscapes.

Particular care and attention must be given to the planning and design of new buildings in these character areas to ensure the style and character of the area is enhanced rather than eroded. Each street has a particular rhythm and scale that is defined by the width of the street, the size of housing lots and the size and height of houses.

At the street frontage, new buildings need to complement this rhythm and scale. For example, many Cairns streets offer a vertical pattern. This can be reinforced by articulating balconies and using vertical posts in new buildings, whereas strong horizontal lines may

detract from the street pattern. Scaling down the building footprint and articulating the front elevation so that individual components are consistent with the width of adjoining houses will further complement the street pattern. Providing cascading roofs and staggered heights can reduce the apparent height of the building at the street, making it less intrusive in the streetscape.

The appropriate choice and arrangement of windows, doors, verandahs, awnings and roof profile can also make the building more compatible by visually 'breaking down' a larger building into small sections of a similar scale to nearby buildings.

Why it is important

Traditional streetscapes reveal the pattern of early residential development in Cairns. The often inappropriate and inconsistent scale, design and patterns of multi-unit housing in traditional streetscapes weakens the character of

these precincts and erodes their integrity as an insight into early Cairns history.

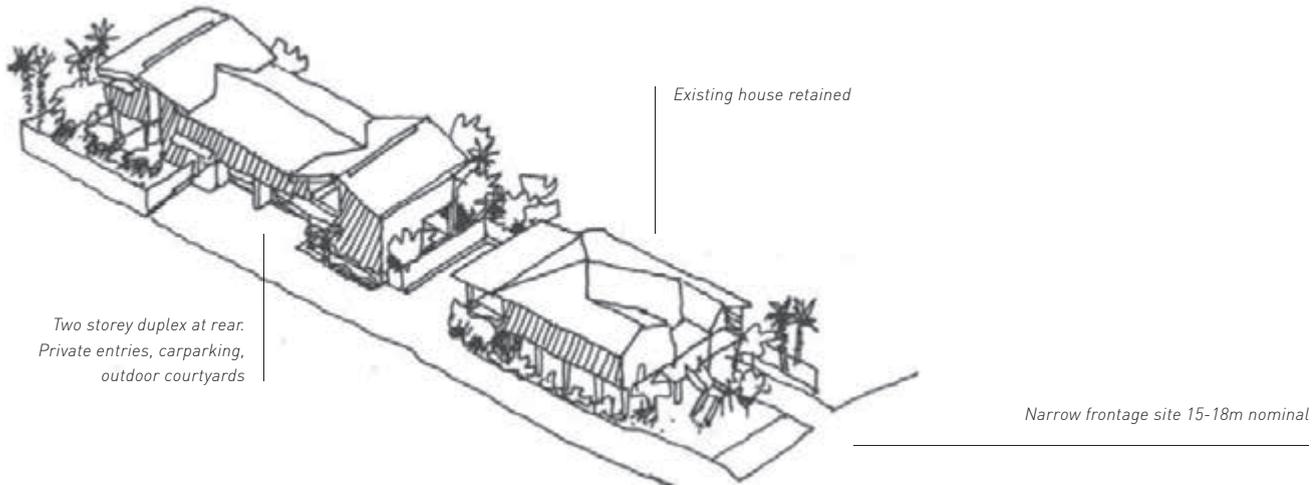
How to do it

- *Design developments with a transition of building heights, consistent with adjacent residential development on the periphery, to higher in the centre of the scheme.*
- *Divide larger schemes into separate buildings similar to the scale of surrounding houses. This will also encourage airflow between buildings and provide areas for tropical landscaping.*
- *Retain 'traditional' housing and locate infill development at the rear of the property.*



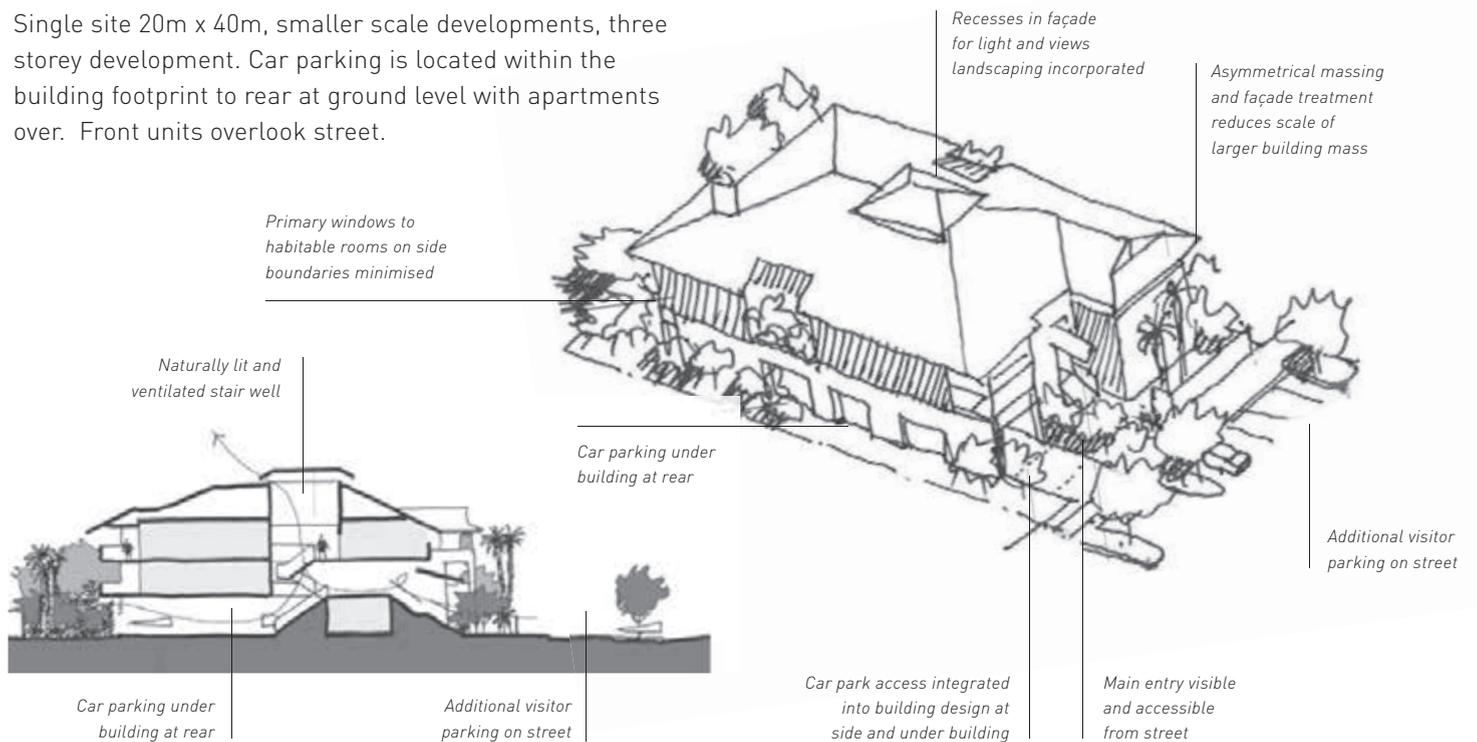
SCENARIO 1: SMALL INFILL SITE

Single site 15m x 40m, smaller scale development, two storey townhouse, duplex form of development, with existing dwelling/s retained. Parking on ground within private garages. All dwellings have private outdoor space.



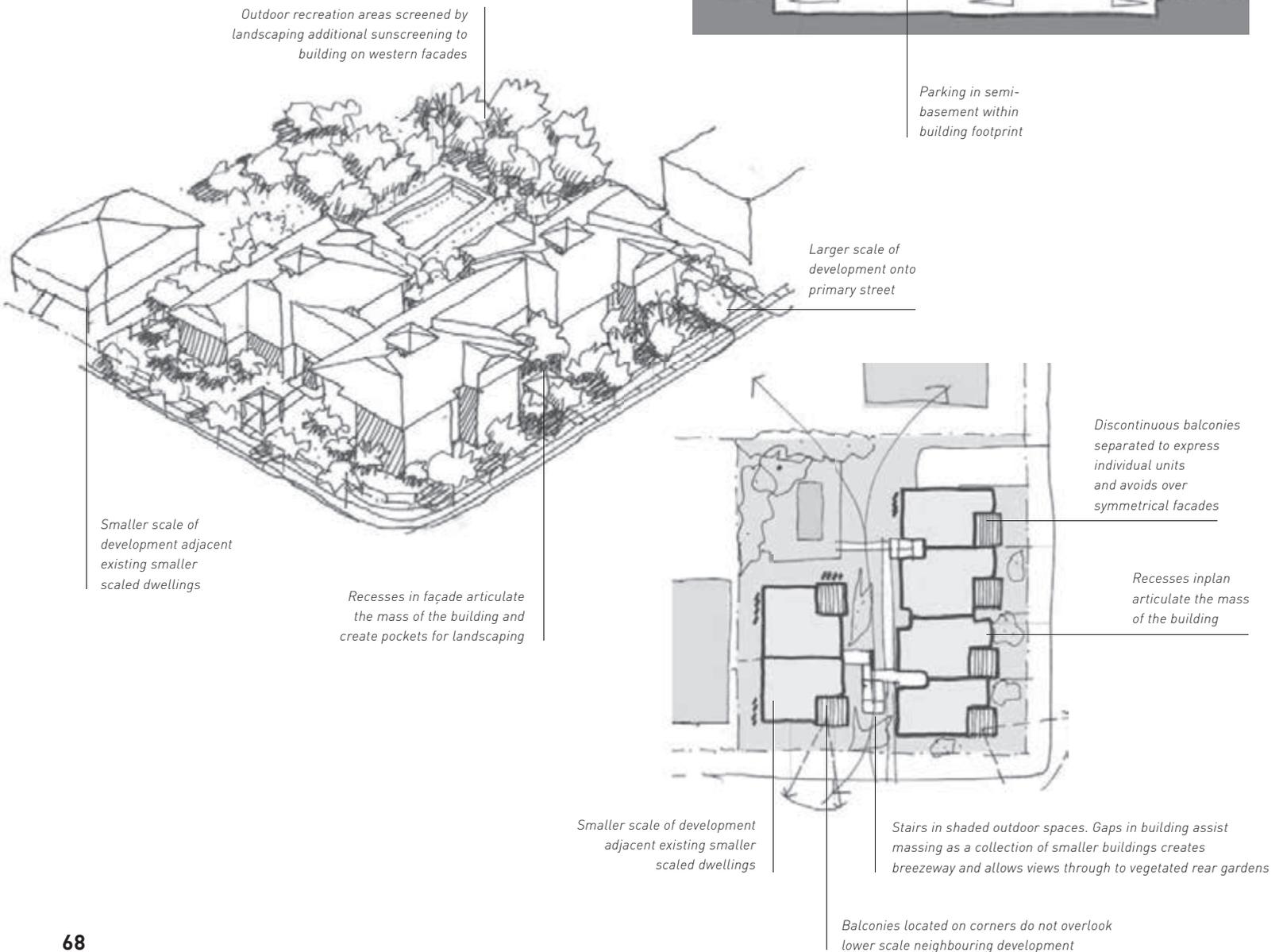
SCENARIO 2: SINGLE SITE INFILL

Single site 20m x 40m, smaller scale developments, three storey development. Car parking is located within the building footprint to rear at ground level with apartments over. Front units overlook street.



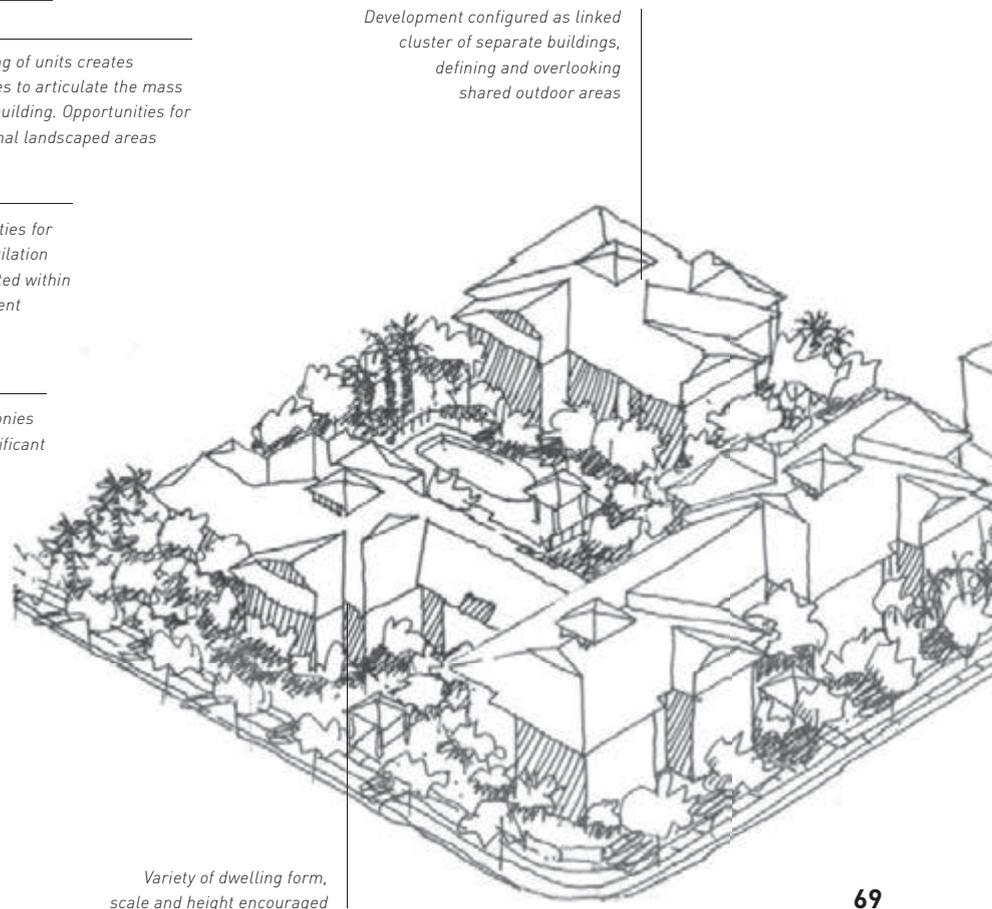
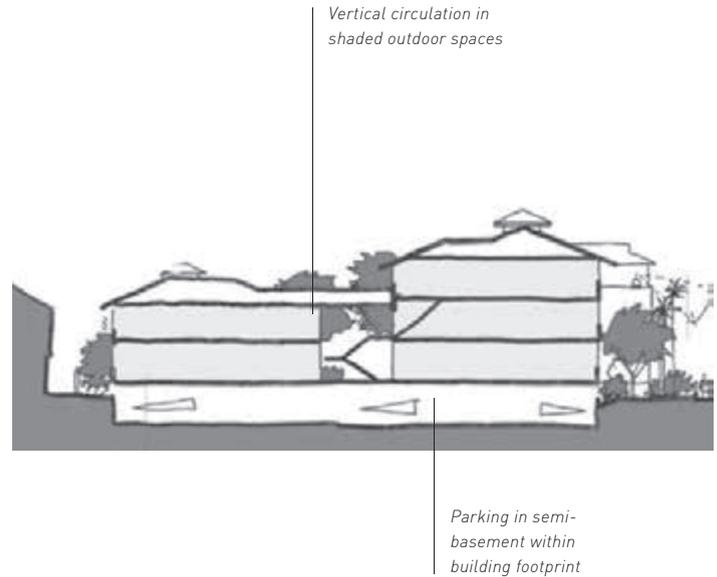
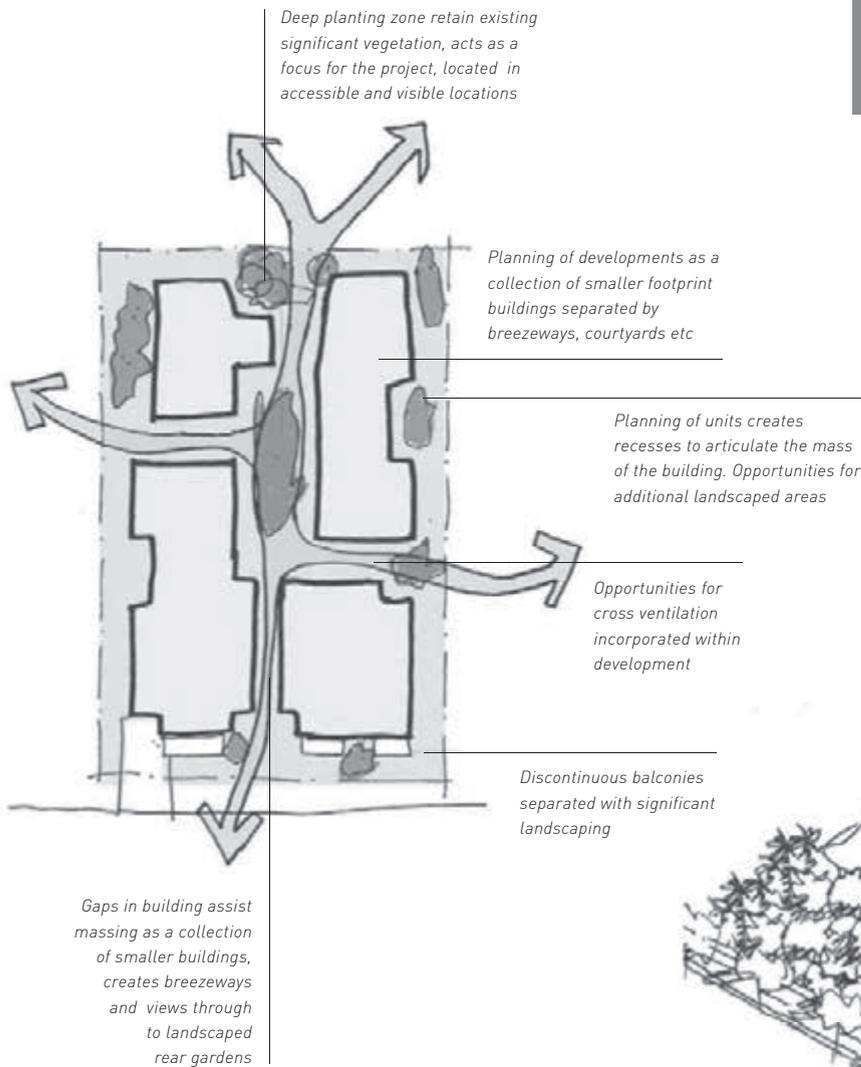
SCENARIO 3: LARGER SITES 2-3 LOTS

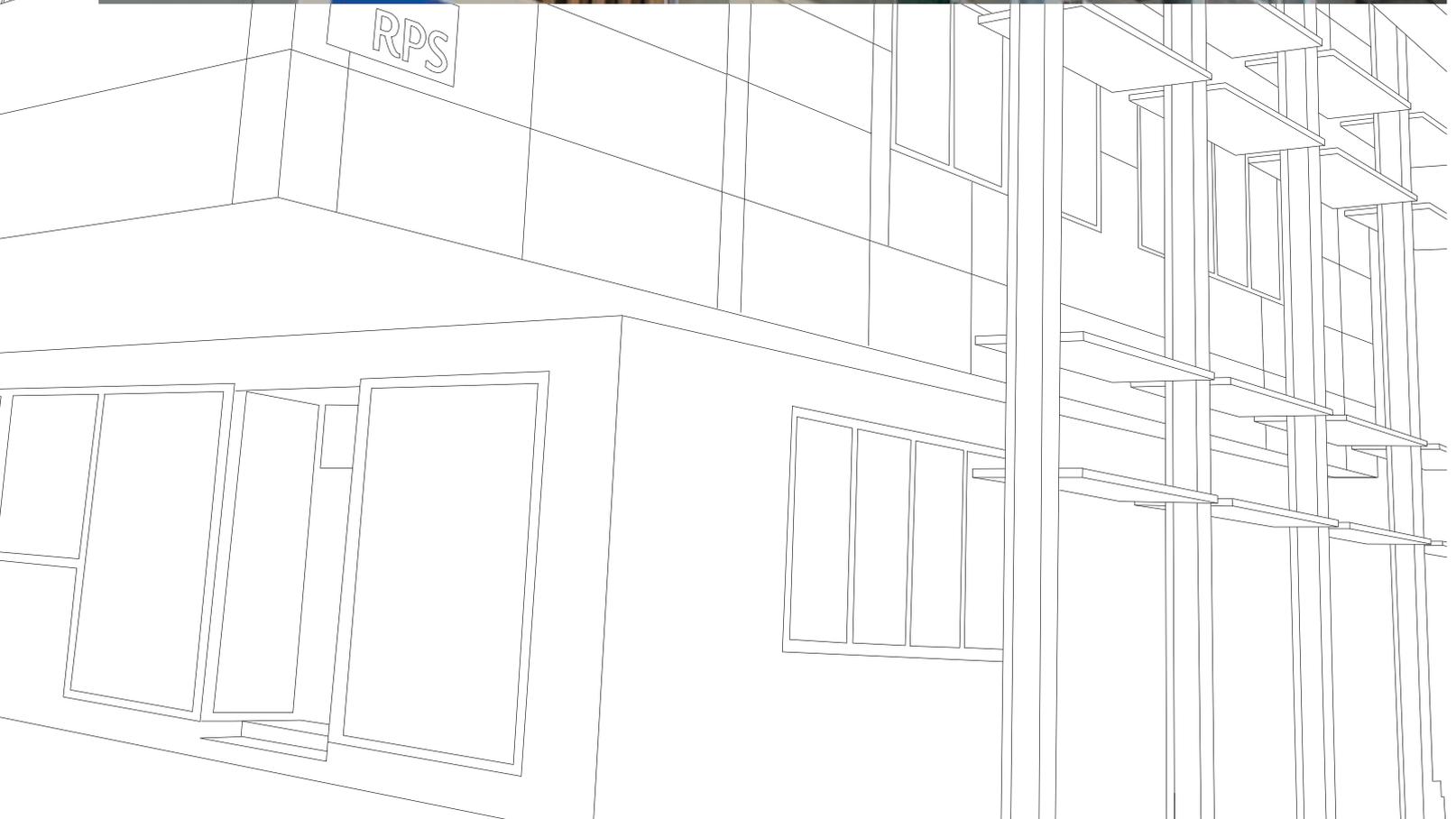
Larger sites, including corners where smaller order residential streets intersect with higher order streets. Site area approximately 35m x 40m. More intense scale of development, three storeys facing busier street and incorporating two storeys on lesser streets where development transitions to existing dwellings. Car parking is located within the building footprint within a semi basement or basement car park. Shared outdoor areas are located at rear of site creating outlook for the dwellings within the development.



SCENARIO 4: LARGER SCALE DEVELOPMENTS

Larger sites with a site area larger than 35m x 40m. More intense scale of development, three storeys but with two storey development interspersed. Car parking is located within the building footprint in a semi basement or basement carpark. Development form is a cluster of buildings. Dwellings overlook the street and semi public gardens within the site or rear.







COMMERCIAL & CIVIC

CONTENTS

5.1_INTRODUCTION	73
5.2_ROOF PROFILES	75
5.3_PARAPETS	76
5.4_VERANDAHS & AWNINGS	78
5.5_MIXED USE DEVELOPMENT	80
5.6_ACTIVE FRONTAGES	81
5.7_BIG BOX COMMERCIAL	83



The philosophy that guided the design of early commercial buildings...was to protect customers against the rain in the wet season and the heat in the dry.



INTRODUCTION

The early twentieth century saw a period of substantial growth in Cairns which resulted in a demand for more buildings in the 1920s and 1930s. Consequently, the character of the Cairns Central Business District is established by buildings of this period and in this respect, Cairns is markedly different from other places in Queensland.

Commercial and civic buildings were traditionally constructed at a human scale of two to three storeys. The philosophy that guided the design of early commercial buildings, particularly retail outlets, was to protect customers against the rain in the wet season and the heat in

the dry. Consequently, buildings were designed with wide awnings or a verandah that extended over the footpath to the kerb. Occasionally the second storey was the shopkeeper's living quarters. The verandah provided the hotel customers and shop owner with an outdoor living space. These verandahs were often screened with lattice. The public buildings of the 1920s and 1930s display classical features such as colonnades and porticos. Examples include the former Court House, Regional Art Gallery, Customs House, Cairns Post building and former City Council Chambers now the City Library. Many commercial buildings featured parapets often showing the building name and year of construction.

Design, detail and materials varied, but collectively, parapets on the city's interwar buildings combine to provide a recognisable theme throughout the city. In recent times the restoration of older commercial civic buildings has effectively revived older buildings and retrofitted them with modern interior offices and civic spaces.

Hotels were often positioned in prominent locations on street corners and often included broad verandahs that extended along both street frontages. A number of these memorable iconic buildings remain in the region and combine with the remaining local heritage buildings to set the theme and influence the region's style.



Prominent commercial buildings should have flamboyant roof designs that also respond to the region's tropical climate through the inclusion of large overhangs.



ROOF PROFILES

Commercial and civic buildings were often constructed with ornate roof designs or a simple roof structure hidden behind an elaborate parapet. Examples include the Adelaide Steamship building, the Central Hotel and the Boland Centre. Recently designed roof structures that contribute positively to the city's skyline include the Convention Centre, Council Chambers, Rusty's Markets and the Casino.

These developments have flamboyant roof designs that also respond to the region's tropical climate through the inclusion of large overhangs. The roof of a building should act as a large hat sheltering the structure from the sun.

Why it is important

Unique and interesting roof structures contribute to a distinct and memorable skyline and to the image of a city. Appropriately designed roof structures have the ability to reduce energy consumption of a building.

How to do it

- *Significant new commercial and civic buildings should include flamboyant roof designs incorporating large overhangs and wide eaves.*
- *On simple roof structures, use a parapet to conceal uninteresting roof designs, air conditioning units and other equipment on the roof.*



Parapets are a traditional design response used to 'dress up' a building facade by concealing an uninteresting roof line and rooftop plant equipment.



PARAPETS

Parapets are a prevalent architectural element in the city's older single and double storey commercial buildings and feature on most of the interwar buildings. Parapets are very common in the Central Business District and vary in shape, size, construction materials and level of detailing.

Why it is important

Parapets are a traditional design response used to 'dress up' a building facade by concealing an uninteresting roof line and rooftop plant equipment. Modern construction techniques and an increase in building heights and scale have seen an increasing absence of parapets on newer buildings. There are many parapets throughout the

Cairns city and collectively these are a distinguishing feature of the city's commercial buildings and contribute to the city's style.

How to do it

- *New parapets should be designed to respect the traditional form without mimicking or reproducing what already exists.*
- *Include a parapet on new single, double and three storey commercial buildings, particularly in the Cairns CBD to hide flat roofs, air conditioning and other roof top equipment.*





VERANDAHS & AWNINGS

Verandahs and awnings are a significant and highly visible element of traditional commercial buildings in Cairns. Their aesthetic value and contribution to the streetscape and character of Cairns' commercial areas is widely acknowledged. In 1977, the National Trust of Queensland wrote "commercial buildings with verandahs are one of the special features of Cairns." Of both aesthetic and functional value, verandahs and awnings are an essential element of Cairns Style for commercial buildings, particularly in the central city area. Aesthetically, verandahs and awnings create deep shade areas, and the vertical posts and balustrades provide a fine vertical scale along the street front. Functionally, the covered

area offers protection from the sun and rain, and a cool, inviting place to stroll and window shop. Today, these spaces are increasingly used for alfresco dining and dining, or as a place to sit and watch the world go by. These uses add life and vibrancy to the region's streets.

Traditionally verandahs and awnings were constructed using the vernacular material of 'tin and timber'. Timber posts, balustrades, rails, battens and fretwork were combined in a variety of ways to create a unique look for each building, whilst the patterns and consistency of materials create a consistency of style. These materials are still favoured today, although steel structure is being used more widely.

How to do it

- Consider using timber features, banners, blinds, awnings or signage to create a 'skirt' under the verandah. This adds visual interest and increases the level of protection from the sun and rain.
- Use posts, balustrades and other details to create a vertical rhythm.
- Ensure the horizontal lines of the verandah or awning match the existing horizontal lines in the street. Where there are no awnings or verandahs, ensure the height of the awning is at a pedestrian scale and will be effective in offering protection from the sun and rain (ideally 3-4 metres).



> · Awnings should be designed to cast deep shade on the building and the footpath. Avoid the use of transparent materials for awnings and limit them to areas where light is required within the building.

- Avoid closing in verandahs as this detracts from the streetscape. Consider using lattices, louvres, screens or blinds to provide privacy or protection from sun and rain where required.
- Avoid locating air conditioning equipment on verandahs.

Pedestrian Priority

When designing awnings, priority must be given to the pedestrians' needs. This includes the use of appropriate materials to provide deep shade, a human scale to allow the pedestrian to feel comfortable and an active frontage to provide interest and improve safety for the pedestrians' journey.

Appropriate 'human scale' awnings not only contribute to the streetscape they also are responsive to climatic events and protect pedestrians from the elements – which is a priority in the Far North Queensland environment.



MIXED USE DEVELOPMENT

Making centres attractive as urban spaces, keeping them vibrant for longer periods of the day and making public transport more viable are some of the widely recognised benefits of mixed use development.

Mixed use development can be described as development that includes a blend of retail, commercial, government, community, cultural, education, health, sport and recreation, entertainment and other leisure activities within or in close proximity to medium or high density residential development.

By incorporating mixed use across the region, particularly in established and new centres, we can ensure a vibrant and engaging centre is developed that is safe, comfortable and enjoyable for all users.

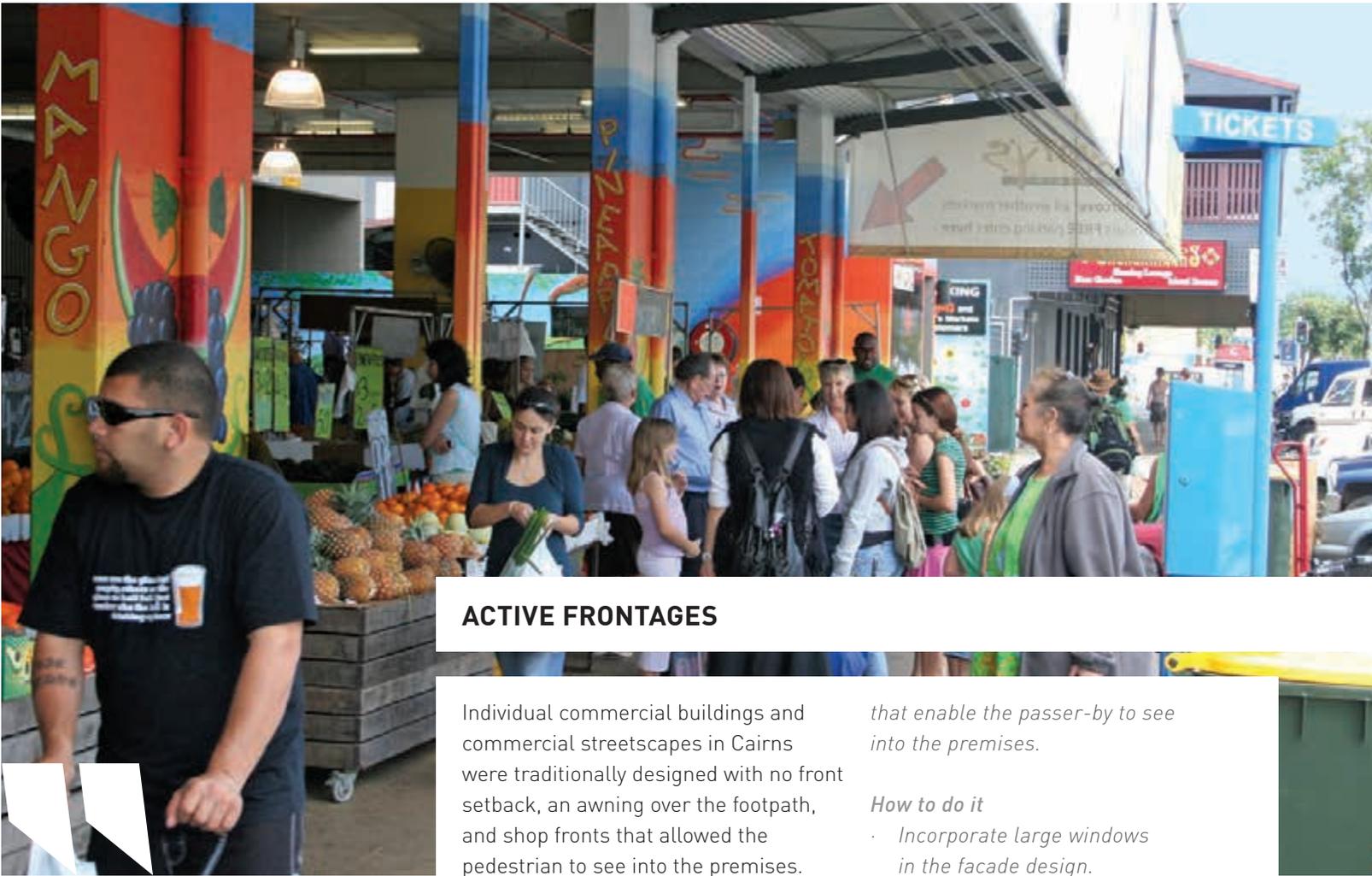
Why it is important

Mixed use development has the following benefits:

- *Promotes increased activity beyond daylight hours promoting safety - higher levels of natural surveillance - 'security of more people around'.*
- *Increases the viability of local shops and facilities.*
- *Provides a range of uses in a single development/centre.*
- *Encourages walking and cycling - bringing health benefits, reducing the need to own a car and thus reducing energy emissions.*
- *Lowers household expenditure on transport.*
- *Creates more socially diverse environments as all users have equal access to facilities, regardless of whether they own a car.*

How to do it

- *Careful site layout and building design are required to ensure mixed use developments function effectively to combine a number of different uses.*
- *Higher density mixed use development should be within reasonable walking distance to public transport services to ensure there is a reduced dependency on private transport.*
- *Retail uses within a mixed development should form part of an active streetscape rather than being located within internalised centres.*
- *Buildings should demonstrate a practical and appealing tropical design response.*



ACTIVE FRONTAGES

Individual commercial buildings and commercial streetscapes in Cairns were traditionally designed with no front setback, an awning over the footpath, and shop fronts that allowed the pedestrian to see into the premises.

that enable the passer-by to see into the premises.

How to do it

- *Incorporate large windows in the facade design.*
- *Do not paint or screen windows that are at street level.*
- *Avoid using security devices that prevent views into the premises. Pedestrians use the street after premises have closed.*
- *Complement traditional window patterns and scale where these are present in the streetscape.*
- *Ensure ground floor of building is occupied by commercial or retail uses and is at grade with the street (i.e. no semi-basement car parking).*

The perception of a close human presence adds a feeling of safety in a street.

Urban Design Alliance of Queensland

Consequently, the pedestrian experience was comfortable and interesting due to the close proximity to and interaction with shop windows, entrances and shopkeepers. More recently, these traditional commercial streetscapes have become vibrant places with the introduction of alfresco dining.

Why it is important

Streets are used and experienced by pedestrians. Blank facades, painted glass, screened windows or car parks are detrimental to the pedestrian experience and reduce the safety of the street by removing passive surveillance opportunities. Active frontages include alfresco dining, open shop fronts or large glass windows





BIG BOX COMMERCIAL

'Big box' commercial developments are becoming more prevalent with the rise in popularity of showroom retailing and homemaker centres. These developments are frequently inconsistent in scale with adjacent existing developments and therefore careful consideration has to be given to the design of these boxes to reduce the impacts on the existing streetscape. Large, blank facades along the streetscape are not consistent with Cairns Style and provide no amenity to passing motorists and pedestrians.

There are opportunities for 'Big box' commercial developments to integrate on a more 'human scale' by breaking up large blank walls and increasing the

pedestrian friendly environment with awnings, effective landscaping and screening.

Why it is important

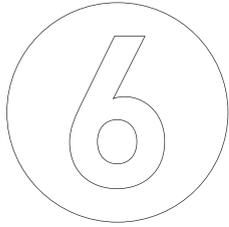
These developments are frequently located in prominent locations to improve exposure and advertising, brightly coloured with the corporate colours of the tenant and larger in scale than the surrounding development.

These have the potential to negatively impact on the streetscape if poorly designed. 'Big box' commercial developments should contribute the same level of amenity to the street that traditional retailing does.

How to do it

- *Provide windows and entrances along the street frontage or frontages where the building is on a corner location. Buildings must not turn their backs on the street.*
- *Provide awnings for pedestrian amenity along the street frontage/s.*
- *Use parapets to add visual interest to the building facade.*
- *Set back buildings to be consistent with the existing pattern of the road.*
- *Provide car parking at the side or rear of the development.*





LANDSCAPING & SCREENING

CONTENTS

6.1_INTRODUCTION

87



Position trees and plants to shade verandahs and protect your house from the summer sun.



INTRODUCTION

The Cairns regional landscape is largely defined by natural land form and land uses that include hillslopes, canefields, creeks, swamps and beaches. These elements contribute to the amenity and enhance the character and style of the region. Landscaped gardens in both the private and public realm and landscaping of the road verges contribute significantly to Cairns Style.

Landscaping and screening are important urban elements that can transform the streetscape and provide amenity, environmental and aesthetic benefits. Traditional landscaping themes can be considered when undertaking new works as measures to contribute to Cairns landscape. Throughout the region's history, outdoor environments of the urban areas have played a major role in contributing to the Cairns Style of different forms of development.

Gardens of the region's Queenslanders traditionally included a backyard of fruit trees, consisting of mangoes, avocados, lychee and bananas, with a front yard that usually featured exotic flowering shrubs and trees such as frangipanis and native palms such as Alexandria Palms. The influence of luxury resorts on multiple dwelling residential developments has created an expectation from residents that resort-style landscape, often with a focus on swimming pools, will be a component of new multi-unit developments.

The contribution to the Cairns streetscapes of spectacular flowering tropical trees, both native and exotic, leaves a memorable impression on the region's visitors and residents alike. The establishment of tree-lined streets with vibrant foliage will provide protection to pedestrians from sun and rain, and continue the unique Cairns Style.

Although most landscaping in the public realm is the responsibility of Council, planter boxes, under-awning baskets and footpath beautification are private initiatives that contribute to the style of the region. These initiatives improve the pedestrians' experience by adding visual interest and contribute to the aesthetic qualities of the streetscape.

Many opportunities exist to reinforce or introduce significant amounts of plantings throughout the region. Cairns Regional Council has strongly committed to improving streetscapes and landscape in the public realm through initiatives such as the Cairns CBD Streetscape MasterPlan, Douglas Landscaping Planning Scheme Policy and tree planting initiatives.



Why it is important

Effective planting arrangements provide colour to the streetscape, tropical fruits to the resident and much valued shade to the house and yard. In addition to increasing the visual appeal from the streetscape, effective landscaping and screening can protect the amenity of residents from both within and external to a site by providing a buffer for noise and other activity. Private landscaping plays an important role in contemporary streetscapes and is useful to delineate between public and private spaces.

The thoughtful positioning of trees and shrubs to shade the dwelling from the summer sun will reduce the need for mechanical cooling. Using vegetation

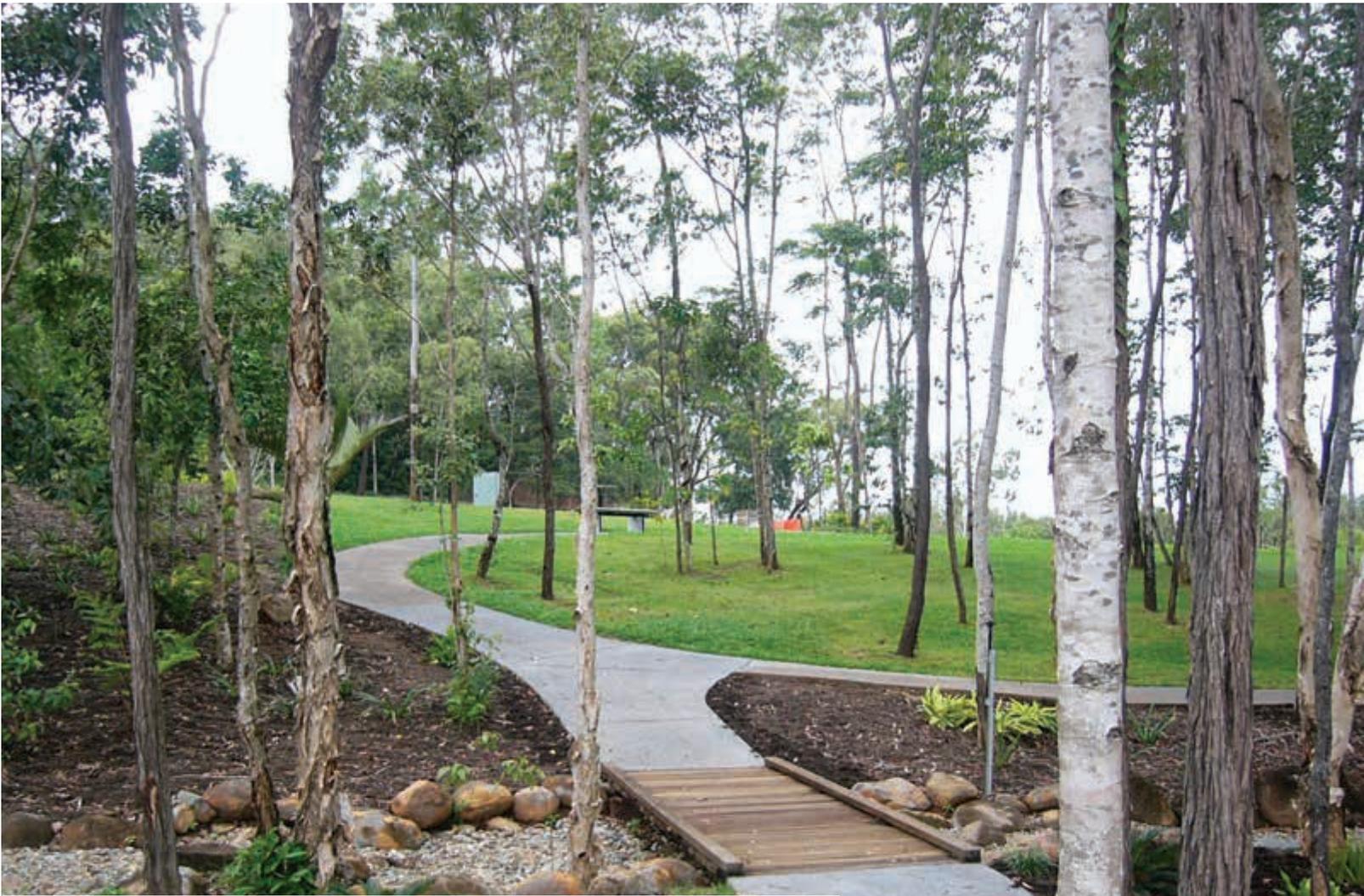
to shade outdoor rooms is an excellent method for creating a tropical refuge in the suburbs. Tropical plantings act as buffers to adjoining properties and between car parking, dwellings and recreation areas in complexes.

Dense, thoughtfully positioned tropical foliage also softens the impact of large multi-unit developments on the streetscape, provides shade to buildings, outdoor rooms and recreation areas and creates a desirable tropical ambience.

Existing on-site vegetation can add established character to new developments and should be retained wherever possible. The planting of appropriate native species is encouraged

to provide bird habitat and to assist in strengthening local character.

The location and screening of external air-conditioning units is a key element to consider in new developments to enhance the view of the development from the street along with reducing other associated impacts such as noise.



How to do it

- *Incorporate a mix of palms, tropical shrubs and native trees that provide tropical foliage.*
- *Position trees to maintain passive surveillance lines to the street.*
- *Use plants that don't require frequent watering.*
- *Retain existing mature vegetation on site. These contribute significantly to the character of traditional streetscapes.*
- *Be aware of overhead services when planting trees and consider the fully grown size of the selected species.*
- *Position trees and plants to shade verandahs and protect your house from the summer sun.*
- *Consider native tree species where possible.*
- *Use dense foliage to improve privacy between internal units.*
- *Consider the location of external air-conditioning units along with screening measures should they front the streetscape.*
- *Use plants that provide colourful flowers to create a tropical ambience.*





SUSTAINABLE BUILDING DESIGN

CONTENTS

7.1_INTRODUCTION	92
7.2_ SHADING, INSULATION & ORIENTATION	94



INTRODUCTION

A sustainable house is a comfortable house. It responds to its climate and surrounding environment and uses water, electricity, and other resources efficiently. The result is a well designed home which is less expensive to run. 'Passive design' is design that does not require mechanical heating or cooling.

Passive design makes the most of natural resources and local conditions to make the house comfortable while reducing energy use. In the tropics, passive design maximises natural cooling design features including shading, natural ventilation and insulation.

Appropriate building materials and window placement also affect the energy efficiency of the building. Many older Cairns Style houses incorporate sustainable design features as modern technology was not available to provide artificial cooling.

Why it is important

Sustainable design results in a comfortable building with reduced electricity costs, reduced greenhouse gas emissions and environmental impacts associated with the production and disposal of building materials.

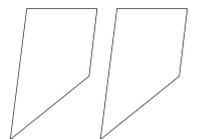
How to do it

Key elements to consider when designing a new home, building or renovation include the following:

- *Orientation – Orientation should aim to exclude the sun year-round and maximise exposure to cooling breezes.*
- *Glazing and Shading – Consider specialised glazing and window treatments to control heat loss and heat gain (e.g. double glazing, louvres etc).*



- *Ventilation – Consider cross ventilation and the location of external openings for intake and exhaust, use of windows which are lockable in a partly open position, use of convection air flows, use of external vegetation to cool incoming air and provide ventilation to the roof space.*
- *Thermal mass and building materials – Use materials with high thermal mass such as concrete floors, masonry walls, stone, ceramic surfaces etc to assist with the overall thermal efficiency of the building.*
- *Insulation – Provide roof and ceiling insulation to minimise the consumption of energy to reduce cooling and heating costs.*
- *Landscaping – Landscaping should enhance the operation and use of the building, while promoting biodiversity and providing habitat for native species.*
- *Outdoor Living – Create liveable outdoor rooms that do not rely on mechanical cooling by maximising cross ventilation and natural breezes.*



A sustainable house responds to its climate and surrounding environment and uses water, electricity and other resources efficiently.



SHADING

The path of the sun changes throughout the year between summer and winter. The sun path diagram for Cairns illustrates the sun to the south in winter and north in summer.

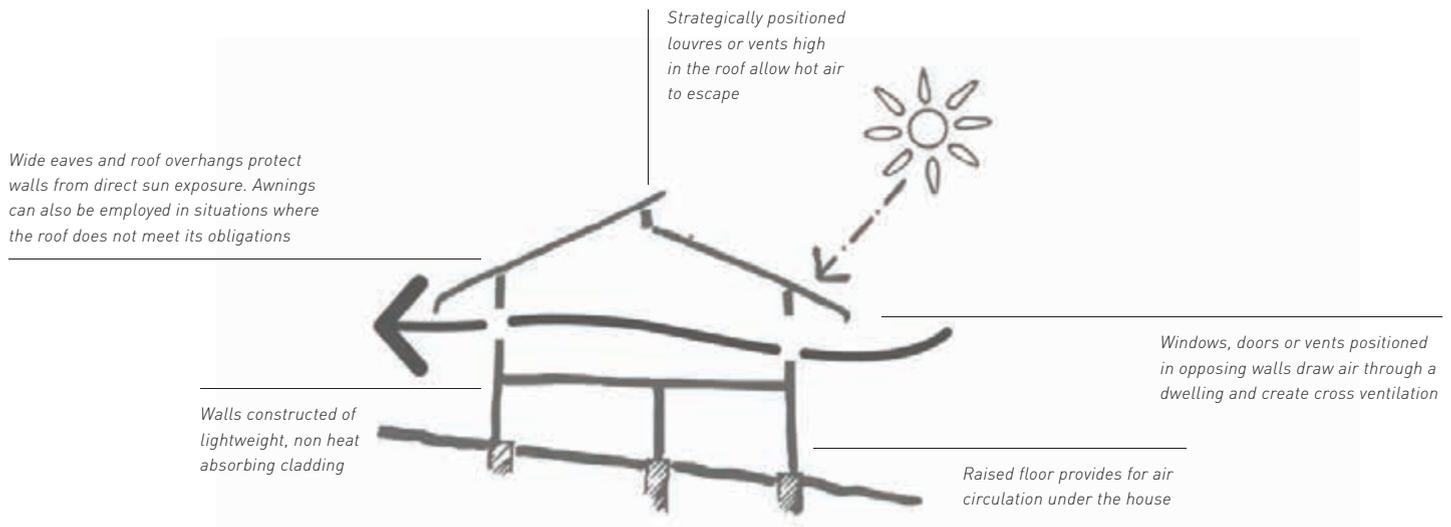
Designing for the sun and its angles will assist in determining the width of roof overhangs and structures for shading windows and thermal mass.

INSULATION

Insulation is an important factor in keeping a house cool. There are generally two types of insulation, bulk and reflective. Bulk insulation works by trapping small pockets of air, reflective insulation works by reflecting radiant heat away from its shiny surface.

The primary concern in the tropics is keeping heat out of living spaces. If a home is air conditioned, insulation can also help to keep the cool air in. Areas

to insulate include the roof, ceiling and walls. Verandah roofs should also be insulated in hot climates where outdoor living spaces are used extensively. Heat build up under verandahs not only affects the space below but can increase temperatures inside the house.





ORIENTATION

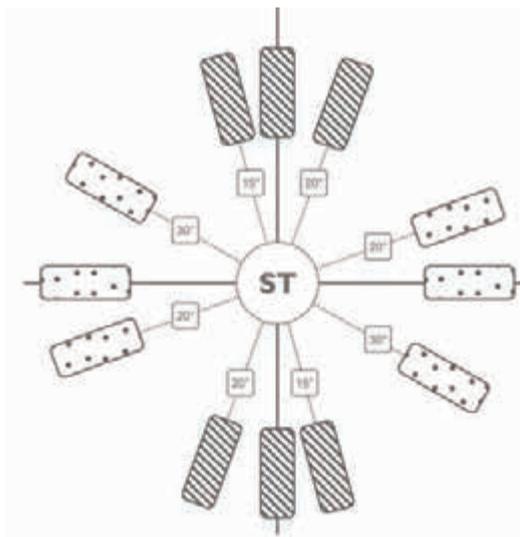
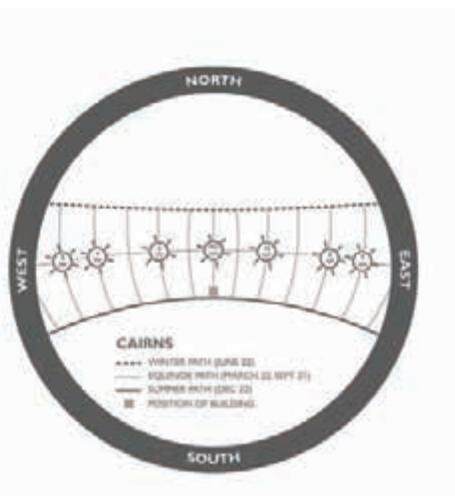
Choosing the right location on a block for home placement is sometimes restricted by the aspect of land chosen, however it is an important element to consider. Orientation can reduce the heat load of a house, reducing the need for costly artificial cooling.

The most fundamental rule is to restrict direct sun light from entering the house all year round and increase access to prevailing breezes.

If possible, position a house to face north with the long axis running on an east-west axis. This minimises the surface area of the house exposed to the east and west morning and afternoon sun.

Due to the sun passing overhead in the southern part of the sky in the summer months and in the northern part of the sky in the winter months, it is important to shade the long sides of the house

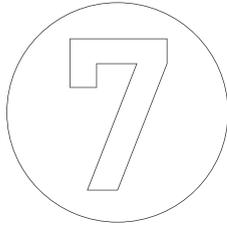
facing north and south. Prevailing breezes in this area tend to come from the south-east so it is important to orientate openings to receive these. Another consideration is obstructions to airflow such as internal walls. Try to direct airflow to maximise the breeze either around, over, or through them.



 Good Site Orientation
 Ideal Site Orientation
ST Street







SUSTAINABLE BUILDING DESIGN

CONTENTS

7.1_INTRODUCTION	92
7.2_ SHADING, INSULATION & ORIENTATION	94



INTRODUCTION

A sustainable house is a comfortable house. It responds to its climate and surrounding environment and uses water, electricity, and other resources efficiently. The result is a well designed home which is less expensive to run. 'Passive design' is design that does not require mechanical heating or cooling.

Passive design makes the most of natural resources and local conditions to make the house comfortable while reducing energy use. In the tropics, passive design maximises natural cooling design features including shading, natural ventilation and insulation.

Appropriate building materials and window placement also affect the energy efficiency of the building. Many older Cairns Style houses incorporate sustainable design features as modern technology was not available to provide artificial cooling.

Why it is important

Sustainable design results in a comfortable building with reduced electricity costs, reduced greenhouse gas emissions and environmental impacts associated with the production and disposal of building materials.

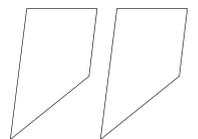
How to do it

Key elements to consider when designing a new home, building or renovation include the following:

- *Orientation – Orientation should aim to exclude the sun year-round and maximise exposure to cooling breezes.*
- *Glazing and Shading – Consider specialised glazing and window treatments to control heat loss and heat gain (e.g. double glazing, louvres etc).*



- *Ventilation – Consider cross ventilation and the location of external openings for intake and exhaust, use of windows which are lockable in a partly open position, use of convection air flows, use of external vegetation to cool incoming air and provide ventilation to the roof space.*
- *Thermal mass and building materials – Use materials with high thermal mass such as concrete floors, masonry walls, stone, ceramic surfaces etc to assist with the overall thermal efficiency of the building.*
- *Insulation – Provide roof and ceiling insulation to minimise the consumption of energy to reduce cooling and heating costs.*
- *Landscaping – Landscaping should enhance the operation and use of the building, while promoting biodiversity and providing habitat for native species.*
- *Outdoor Living – Create liveable outdoor rooms that do not rely on mechanical cooling by maximising cross ventilation and natural breezes.*



A sustainable house responds to its climate and surrounding environment and uses water, electricity and other resources efficiently.



SHADING

The path of the sun changes throughout the year between summer and winter. The sun path diagram for Cairns illustrates the sun to the south in winter and north in summer.

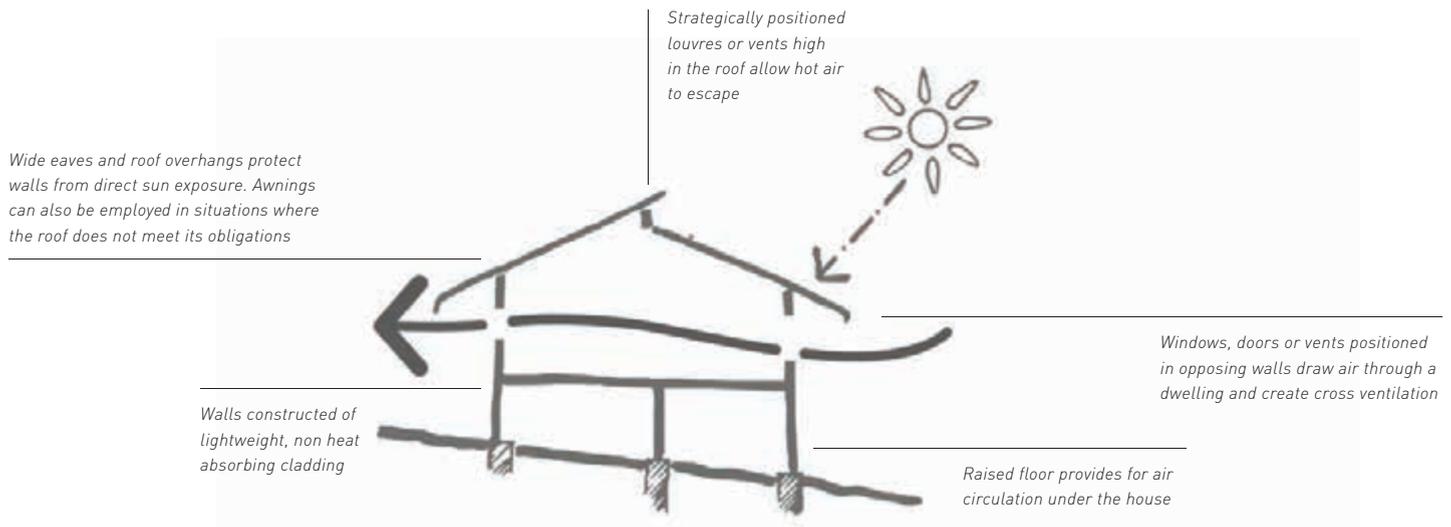
Designing for the sun and its angles will assist in determining the width of roof overhangs and structures for shading windows and thermal mass.

INSULATION

Insulation is an important factor in keeping a house cool. There are generally two types of insulation, bulk and reflective. Bulk insulation works by trapping small pockets of air, reflective insulation works by reflecting radiant heat away from its shiny surface.

The primary concern in the tropics is keeping heat out of living spaces. If a home is air conditioned, insulation can also help to keep the cool air in. Areas

to insulate include the roof, ceiling and walls. Verandah roofs should also be insulated in hot climates where outdoor living spaces are used extensively. Heat build up under verandahs not only affects the space below but can increase temperatures inside the house.





ORIENTATION

Choosing the right location on a block for home placement is sometimes restricted by the aspect of land chosen, however it is an important element to consider. Orientation can reduce the heat load of a house, reducing the need for costly artificial cooling.

The most fundamental rule is to restrict direct sun light from entering the house all year round and increase access to prevailing breezes.

If possible, position a house to face north with the long axis running on an east-west axis. This minimises the surface area of the house exposed to the east and west morning and afternoon sun.

Due to the sun passing overhead in the southern part of the sky in the summer months and in the northern part of the sky in the winter months, it is important to shade the long sides of the house

facing north and south. Prevailing breezes in this area tend to come from the south-east so it is important to orientate openings to receive these. Another consideration is obstructions to airflow such as internal walls. Try to direct airflow to maximise the breeze either around, over, or through them.

