

MANGO HILL INFRASTRUCTURE DEVELOPMENT CONTROL PLAN

Precinct Plan No. 008

for

Town Centre Frame 'A' Precinct

North Lakes Development

13 September 2001

**(Approved subject to conditions by Council, under delegated authority, on the 13
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1 INTRODUCTION

1.1 Statutory Planning Context

The Mango Hill Infrastructure Development Control Plan (DCP) provides for the creation of a precinct within any part of the DCP area to show in indicative terms, a more detailed interpretation of the DCP Structure Plan. The planning area for a precinct may be determined by the principal developer.

The principal developer must prepare a precinct plan in accordance with the DCP and lodge it with Council for approval as a precursor to gaining approval for sector plans and development approval for development applications. To comply with the DCP (section 2.3.2), a precinct plan must provide:

- (i) a more detailed interpretation of the structure plan, the desired environmental outcomes and the planning intents of the DCP;
- (ii) statements of development, planning and design principles;
- (iii) a landscape concept plan;
- (iv) where relevant, the broad strategies for the open space system;
- (v) environmental management objectives for development and performance indicators used to measure achievement of these objectives;
- (vi) statements of desirable and undesirable generic land uses;
- (vii) statements concerning the infrastructure to be provided, infrastructure affected by or required and how such infrastructure relates to the infrastructure agreements;
- (viii) a preliminary program for the provision of infrastructure; and
- (ix) any other relevant information.

Development in the precinct must comply with the provisions of a precinct plan.
(DCP sect.2.3.1)

Where a discrepancy arises between the performance criteria of this precinct plan and the requirements of the DCP or Mango Hill Infrastructure Agreement (the MHIA), the requirements of the DCP or MHIA will prevail.

1.2 Town Centre Frame 'A' Precinct

The principal developer has created a precinct to be known for planning purposes as the *Town Centre Frame 'A' Precinct*. This document constitutes the precinct plan for the Town Centre Frame 'A' (Precinct Plan No. 008).

The location of the precinct within the DCP area is shown on **Figure 1 - Location Plan**, the area and boundaries of which are only notional.

2 STRUCTURE PLAN CONTEXT

2.1 Context

The Town Centre Frame 'A' Precinct relates to only part of the land designated in the structure plan as Town Centre - Frame. Further precinct plans will be required to guide development on the balance of this designated land.

The precinct is bounded on its southern side by North Lakes Drive, on its western side by The Corso and on its northern side by the East-West Road. The location of the precinct in the structure plan is shown on **Figure 2 - Structure Plan Context**.

The precinct is situated immediately north of the town centre core, and in particular, immediately opposite the principal pedestrian entrance to the major shopping centre development area within the town centre core precinct.

Important functional and physical relationships between the precinct and the town centre core need to be established through the precinct plan, sector plans and subsequent development applications. A high quality streetscape and urban form of development fronting North Lakes Drive must be achieved if these physical and functional relationships are to be established and fostered.

Also of importance are the physical and functional relationships between development in the precinct and developments in adjoining town centre frame precincts. The DCP Development Strategy requires that 'best practice' urban planning dictates the need for a high degree of integration between the different activities in the town centre. The Town Centre Frame 'A' Precinct is centrally located within the town centre. Consequently, the integration between it, surrounding precincts and the town centre core is important to ensure a high level of cohesion in function and urban form is achieved in the town centre.

2.2 Town Centre Frame - Structure Plan Intent

The DCP establishes the broad intent for the town centre frame (section 3.3.2). The essence of the DCP intent is re-stated below:

The town centre frame is intended to provide for a wide range of support activities and services to the town centre core together with various forms of medium and high density residential. A primary focus of development in the town centre frame, like the town centre core, is to support the creation of a Major Employment Centre in the northern growth corridor of the Shire. The range of employment opportunities in the town centre frame is more likely to be oriented towards service and support activities rather than the higher order retailing and business activities found in the town centre core.

The structure plan anticipates the predominant activities and services in the town centre frame to include:

- (i) medium to high density residential;
- (ii) open space including the town park;
- (iii) business and commercial support services;

- (iv) lower-order retail to service the needs of residents and the workforce in the core and frame areas;
- (v) education, health and community services;
- (vi) service trades;
- (vii) entertainment and recreation facilities;
- (viii) possibly emergency services facilities;
- (ix) specialist retailing and business services; and
- (x) other appropriate uses.

The town centre frame will be characterised by a diverse range of activities, with the intensity of development typically reducing with the separation distance from the town centre core. The DCP encourages the establishment of mixed uses and medium to high density residential in the town centre frame to support the slightly higher intense retail and commercial activities in the town centre core.

3 TOWN CENTRE FRAME

3.1 Development Strategy

The Mango Hill Infrastructure DCP promotes an integrated approach to the planning and development of the DCP area. At all levels of planning, the integration of different functional, development and landscape elements is critical to the success of the project and to the achievement of the development strategy for the DCP area.

The development strategy is broadly given its meaning through the structure plan. The structure plan integrates designated land use elements with major infrastructure including transport corridors, and community facilities.

The development strategy for the DCP is based on a framework of desired environmental outcomes (DEO) to be achieved and supported by the implementation of strategies both broad and specific. Planning intents and development intents for each of the elements of the structure plan also form an essential part of the DCP planning framework.

The development strategy for the town centre frame is to ensure that development is linked physically and functionally with the high intensity activities in the town centre. At the same time, development for a range of commercial and non-commercial and residential purposes in the town centre frame will provide a gradual transition in land use and intensity from the town centre core to Lake Eden.

3.2 Desired Environmental Outcomes - Town Centre Frame

The DCP includes a number of over-arching desired environmental outcomes (DEO) as well as numerous DEO for each element identified by the DCP. However, a number of the DEO overlap a number of elements. Therefore, DEO within all relevant elements of the DCP must be read collectively in order to gain the overall meaning within the context of the DCP.

The DCP establishes a number of desired environmental outcomes for the town centre frame element. There are both general and specific DEO stated in the DCP which are relevant to this precinct.

3.2.1 Relevant General DEO

The general DEO in the Town Centre Frame land use element relevant to this precinct are established in Section 5.1.1 of the DCP. They are set out below:

- (a) *To reinforce the role of the town centre core by providing a range of complementary employment opportunities, facilities and services typically not provided in the core.*
- (b) *To provide opportunities for mixed use development and employment as part of the Major Employment Centre in locations highly accessible to the town centre core, the MIBA and the existing and planned regional transport network.*

- (c) To expand the choices in housing styles available in the DCP area by providing a range of medium and high density residential development.

3.2.2 Specific DEO

The specific DEO for the Town Centre Frame land use element relevant to this precinct are established in section 5.1.2 of the DCP. They are set out below:

- (a) To reinforce and complement the role and function of the town centre core as a key component of the Major Employment Centre in the northern growth corridor;
- (b) To provide opportunities for a wide range of high order employment, entertainment and tourism services, and housing for local and regional residents which may not be appropriate to a town centre core location having regard to their particular character.
- (c) To provide small scale incidental retail facilities generally intended to service the town centre workforce and residents or as part of a mixed use development
- (d) To establish and maintain a high standard of urban amenity in the development of medium and high density accommodation within the town centre frame.
- (f) To maintain a high level of flexibility in planning for future development for a range of activities which are expected to change.
- (g) To retain opportunities for speciality retailing and business services, which do not require a town centre core location, without compromising the role and function of the town centre core.

3.3 Planning Intent

The planning intent for the town centre frame is established in section 5.2 of the DCP. The general intent is encapsulated in the following extract from section 5.2:

The town centre frame is intended to provide support facilities and services to the town centre core, and to provide a transition between the town centre core and the MIBA and urban residential areas. The town centre frame will accommodate higher levels of activity than the surrounding land use elements but a slightly lower level of activity than the town centre core. This differentiation will be reflected in the spatial arrangement, type and intensity of land uses and the physical form of development.....

The overall emphasis in the development of the town centre frame is to be upon flexibility, accessibility and integration of activity and the built form with the town centre core, transport system, open space and the path network.

Some of the major activities are expected to include:

- administrative offices and commercial premises;
- community infrastructure, such as emergency services facilities, civic and cultural uses including a library and Council offices, and convention facilities and educational facilities and possibly a private hospital;
- major recreation and leisure facilities, such as licensed clubs, art galleries, indoor recreation facilities and live performance theatres;
- medium and high density residential;
- public transit centre; and
- local or convenience facilities and services.

3.4 Development Context

The Town Centre Frame 'A' Precinct is situated within the town centre frame immediately adjacent to and north of the town centre core.

The DCP (section 12.7) anticipates that a community recreation and leisure facility in North Lakes will be provided in either the town centre core or frame. The Town Centre Frame 'A' Precinct is the preferred location for that facility and has been identified as such by Council. It is expected that now the land has been transferred to Council as required by the rezoning conditions, Council will develop it for the purpose of a community recreation and leisure facility.

The context and the principles by which development of the precinct are to be guided are presented in **Figure 3 - Development Context and Concept Principles**.

Significant factors likely to influence development of the precinct include:

- the proximity of the town centre core, and the major shopping development area;
- the development of important community facilities such as the public transit centre and possibly a senior secondary college;
- the main street environment to be created in North Lakes Drive between the town centre core and the town centre frame;
- the connection role to be performed by The Corso in linking the town centre core with the town centre frame and to Lake Eden;
- the future transport function of the East-West Road.

Having regard to these factors, development in the precinct will need to:

- (i) achieve strong functional relationships with developments in adjoining and adjacent precincts;
- (ii) facilitate connectivity with adjoining precincts;
- (iii) provide for high levels of pedestrian activity focussed on the streets, ;
- (iv) define a system of urban spaces which are both functional and attractive;
- (v) respond appropriately to community expectations of the facilities and services likely to be found in this important town centre location.

3.5 Development Character

3.5.1 General Development Character

The precinct is located in a functionally and visually prominent part of the town centre. It is an important link between the town centre core, the balance of the town centre frame, and Lake Eden in terms of community functions, streetscape and visual connections.

The character of development in this area will be community-focussed, intense and highly urbanised. The nature of development will contribute to high levels of activity for extended hours of the day and night. Street furnishings, plantings, paving materials and lighting will enhance the environment.

Buildings in the precinct will address and be built to the street frontages while presenting attractive facades to the car parking areas and the boundaries with adjoining precincts. Pedestrian access from the street will be 'at grade' to encourage the use of the facilities. The street system is to be the primary focus for pedestrian movements in the precinct, rather than less formal movements between developments within the precinct and on adjoining precincts.

3.5.2 Development Fronting North Lakes Drive

To achieve the development intent of the DCP (section 5.3.2), the character of development fronting North Lakes Drive will be one of a main street environment with accessible, active frontages¹ addressing the street. Development will be complementary to the character, scale and intensity of the frontage development along North Lakes Drive in the town centre core.

To achieve the desired main street environment, the treatment of North Lakes Drive will include a pedestrian-scale streetscape, with buildings defining the street environment, generous footpaths and a high quality urban design character. Buildings developed along the North Lakes Drive frontage of the precinct will provide a continuous built edge at least two storeys in scale. Awnings providing pedestrian shelter and visual interest are to be provided to the building frontages along North Lakes Drive.

¹ "Active frontages" and its derivatives mean uses which:

- reinforce and encourage pedestrian activity;
- encourage direct business and social activity along the street and provide opportunities for people to meet;
- use a direct face with the street to undertake business, not from within a separate shopping centre or arcade;
- are undertaken in premises which directly address the street;
- have well-proportioned access doorways which remain open during normal trading periods, generally located no more than 6 metres from any other doorway in the same premises or adjoining premises; and
- are undertaken in premises which have frontages which are interesting to pedestrians, display activity inside, and are generally transparent.

3.5.3 Development Fronting The Corso

Development framing The Corso will create urban spaces at street level appropriate to the scale of the buildings and the intensely pedestrian use preferred for this area. Buildings at least two storeys in scale will extend along The Corso, with exceptions being for vehicle and pedestrian access to car parking areas at the rear of development.

Continuous pedestrian shelter will be provided by awnings, lightly structured colonnades or a combination of them along the frontage of the precinct, providing that the intimate and shaded pedestrian character of the main street environment is able to be maintained. Colonnades and awnings may be used as a means to extend indoor activities, including cafes and dining, to the outside main street environment.

3.5.4 Development fronting the East-West Road

Development framing the East-West Road will provide a defined edge to the street, particularly at the intersection with The Corso. Development at this intersection will be characterised by a landmark building similar in scale to the buildings at the intersection of North Lakes Drive and The Corso.

Development along this frontage will provide a land use and development transition between this precinct and the mixed use precincts to be developed the north. While the over-riding character of development will be community and commercial activities, there will also be a range of small-scale retail uses which are generally intended to service the needs of the workforce and residents of this precinct and the precincts to the north.

In order to emphasize the primary pedestrian function of the street system, in lieu of the informal use of car parking areas for pedestrian movements between developments, continuous pedestrian shelter is also to be provided, preferably as awnings over the footpaths, with development fronting this street.

4 PRECINCT PLAN

4.1 Land Use Pattern

In accordance with section 2.3.2(f) of the DCP, the desirable land uses are to be identified in generic terms as part of this precinct plan. The sector plan(s) stemming from this precinct plan will finalise the specific land use rights as required by section 2.4.9 of the DCP.

Figure 4 - Precinct Plan Map, to be read as part of this precinct plan, establishes development principles and requirements for development in the precinct.

This precinct plan anticipates the full range of Town Centre Frame land uses and as previously discussed this precinct is the preferred location for the major community recreation and leisure facilities required by the DCP. Such land uses generally will have a functional nexus with the town centre core, and will be integrated in functional and urban design terms with adjoining development. Within the Town Centre Frame, this precinct is also the preferred location for a telecommunication tower.

4.2 Building Form & Design

The built form of development on the intersection of North Lakes Drive and The Corso must create a landmark that:

- (i) complements the character of the development in the town centre core, particularly the frontage development in North Lakes Drive; and
- (ii) reinforces the importance of the precinct as a key corner stone to the intersection of North Lakes Drive and The Corso.

The built form of development along The Corso must complement that at the intersection with North Lakes Drive, but also must contribute to the pedestrian character of the street. The architecture of buildings in The Corso must be open and accessible, while conveying the strong characteristics of the Queensland vernacular. The overall design character of buildings will be reinforced by the finishes, colours and details that combine to create a distinctive precinct within a modern town centre with a strong sense of place.

Integration of building design and urban spaces with appropriate lighting, signage and landscaping will contribute to this desired sense of place.

Buildings will be at least two storeys in scale and will exhibit an architecture in keeping with a town centre location. The architecture and streetscape will be complementary. The upper levels of tall buildings may be stepped back, if required to minimise the impact of bulk, form and over-shadowing on the streetscape and pedestrian environments in the immediate vicinity.

The desired character of the street environment, along both North Lakes Drive and The Corso, is to be achieved through the variety of characteristics of each individual building. However, the desired streetscape requires some consistent elements, such as awnings over footpaths to achieve architectural and landscape harmony.

Figure 6 - Urban Design Character Sketches provides illustrations of a desirable urban design outcome for building forms, architectural elements, outdoor spaces and landscape character within the precinct.

4.3 Landscaping

The Landscape Concept Plan provides a framework for the creation of a distinctive urban setting and town centre character through an integrated overall approach incorporating landscaping and urban development within the town centre frame (refer **Figure 5 - Landscape Concept Plan**). Key elements of this concept plan are described below.

4.3.1 North Lakes Drive Frontages

The verges of North Lakes Drive will be consistently framed with appropriate landscape and canopy trees to provide safe and shaded pedestrian environments that will include generous footpaths, possible bus stops, street trees, street furniture and lighting.

Any planting adjacent to the vehicular and pedestrian access points on North Lakes Drive must highlight the access to and from the precinct and ensure vehicle drivers' sightlines are maintained. Entries will include pedestrian pathways providing linkages from surrounding development to the major shopping centre development area located in the town centre core.

The landscape treatment of the intersection of North Lakes Drive and The Corso is to reinforce the pedestrian activity across the intersection linking from the town centre core to the Town Centre Frame 'A' Precinct and the wider town centre frame.

4.3.2 The Corso Frontages

The verges of The Corso will be planted with appropriate shade trees:

- to enhance the visual amenity of the street;
- to offer shade to parked vehicles; and
- to reduce glare from parked vehicles and nearby buildings reflected onto the footpaths and into buildings.

Whereas the North Lakes Drive landscape treatment is proposed to be open with shade trees spaced along the verges, the treatment of The Corso will be more closed and shaded with tree canopies possibly and desirably meeting across the carriageway. The landscaping treatment of The Corso is intended to provide a contrast with the main street environment in North Lakes Drive. The landscape treatment is also intended to establish an interesting and varied experience for pedestrians from the highly intense activities of the town centre through a range of spaces in the town centre core, town centre frame and the edge of Lake Eden.

4.3.3 East-West Road Frontages

The verges of the East-West Road will be consistently framed with appropriate landscaping and canopy trees to provide a safe and shaded pedestrian environment.

Landscaping treatments in the East-West Road will reflect the role and function of the street, while also providing a filter to the impacts of the anticipated traffic flows.

Landscaping will be used to provide an accent to buildings in the precinct, rather than as a screen.

4.3.4 Pedestrian & Public Areas

It is intended that a series of urban spaces and pedestrian links connect with, and extend into, the development sites and car parking areas proposed in the precinct. These linkages will form a network of landscaped pedestrian paths and public areas extending from the town centre core, through the town centre frame to Lake Eden. Some of these spaces will provide opportunities for quiet relaxation and rest in a town centre setting.

Public safety will be a consideration in the design and construction of pedestrian and public spaces.

The Corso will be widened in its middle section to provide enhanced opportunities for the creation of highly attractive and useable urban spaces.

Sector plans for development in this and other precincts should demonstrate that the network of urban spaces and pedestrian linkages principally focused on the streets can be achieved.

4.3.5 Landscaped Car Parking & Service Areas

Development in the precinct is likely to initially require surface car parking to be located centrally and surrounded by buildings to screen it from the surrounding street environments. The car parking area will be largely screened by buildings but will require sufficient visibility into them from the surrounding streets and buildings to improve safety and security. In the longer term, it is anticipated that these car parking areas will be redeveloped into development sites that include structured car parks.

For reasons of environmental quality and urban amenity, it is important these large external areas be planted with canopy shade trees and integrated with the planned network of landscaped pedestrian and road frontage treatments.

The extensive use of shade trees and screening through the car parking areas will provide visual and physical relief from heat and glare, as well as contribute to the creation of a landscape setting. Car parking areas may include appropriate shade structures which are integrated within the overall development.

With the movement of people through these parking areas, the design and landscape treatment of 'back of house' and service areas are important. While such areas should be screened, landscaping treatments should not diminish the usability of these car parking areas due to personal safety concerns of users.

4.4 Transportation & Circulation System

4.4.1 Transport Functions

North Lakes Drive

North Lakes Drive is intended to progressively develop as an urban “main street” as stated in the DCP. It will be developed in a way that allows ease for pedestrians crossing at key points. As traffic numbers grow, more formal controls such as pedestrian crossings may be necessary and will be provided by the principal developer if so required by the Council.

North Lakes Drive will provide safe and convenient access to car parking areas within the precinct. It will also provide short-term car parking on-street for as long as traffic volumes permit, as well as provide bus pick-up and set-down to service the Town Centre.

The Corso

The Corso is intended to function as a local street serving the town centre frame. It will be constructed as a two lane road with kerbside car parking set into kerbline build-outs.

The Corso will be widened in its middle section to provide greater opportunities for community activities in the street.

The Corso will be a low traffic environment with a distinctive, pedestrianised character.

East-West Road

The East-West Road is intended to develop ultimately as the principally through route in the Town Centre so as to ensure the urban main street created in North Lakes Drive is not compromised by traffic that has a destination other than the Town Centre. It will also provide linkages to the MIBA and other destinations beyond the town centre.

4.4.2 Vehicular Access

Parking and vehicular access must be provided, designed and located to ensure convenient and safe parking and vehicular access to all parts of the development within the precinct.

Vehicular access to the precinct is provided via:

- (i) the proposed extension of North Lakes Drive as it passes along the southern boundary of the precinct;
- (ii) accessways off The Corso;
- (iii) car park access from the proposed East-West Road as it passes along the northern boundary of the precinct.

Vehicular access will be constructed to Council standards. These accessways will ensure adequate sight lines are maintained to roads and pedestrian paths.

Provision for local bus and taxi access will be included at pick-up and set-down locations adjacent or in reasonable distance to the precinct.

4.4.3 Car Parking

Car parking will be accommodated in a number of surface car parks as well as possible structured parking in the later stages of development. Surface car parking will include the provision of shade trees, and possibly the use of shade structures within selected areas of the car park. Any shade structures will be integrated with the landscaping. Structured parking, if developed, will be designed to complement the overall built form appearance of the precinct. Vehicles in structured car parks will be significantly screened when viewed from public roads

Opportunities for shared car parking areas will arise out of the range of uses intended in the precinct, and other possible future activities on adjoining precincts. The final provision of car parking spaces will be resolved with the assessment of development applications to be made following approval of the sector plan(s).

4.4.4 Public Transit Centre

The Principal Developer in consultation with the State and the Council will determine the precise location and dimensions of the public transit centre and the park and ride facility. The location will be drawn from the city block bound by The Corso, North Lakes Drive, the East-West Road and Memorial Drive.

4.4.5 Pedestrian & Cycle Access

An integrated pedestrian network is proposed to link the precinct with the balance of the town centre frame, the town centre core and Lake Eden. These pedestrian links will be attractively landscaped, with an emphasis on convenience and safety.

Access points via car parking areas at the rear of the development must be clearly identified and designed to maximise safety and convenience.

The built form within the precinct must allow a high level of access and convenience for pedestrians, cyclists and motor vehicles, while minimising potential conflict points between pedestrians and vehicles.

4.5 Regrading Concept

The terrain in the precinct falls from a high point in the vicinity of the intersection of North Lakes Drive and The Corso in a northerly direction. The fall will need to be accommodated in the detailed planning and design of development(s) within the precinct.

A regrading concept plan, consistent with the regrading concept for the town centre core and part of the town centre frame, must be addressed in the sector plan proposed under this precinct, to demonstrate solutions to the following design issues:

- integration of the regrading of this precinct with the regrading for the town centre core and the adjacent major roads;
- providing equitable access for people with disabilities;
- providing for easy and convenient pedestrian movements through the precinct;
- maintaining adequate surveillance of public spaces within the precinct;
- providing adequate site drainage across site boundaries; and
- minimising the visual impact of retaining walls or structures.

The regrading of The Corso and its environs south of the East-West Road must be undertaken by the 30 June 2002.

4.6 Engineering Services

Urban infrastructure will be extended to the Town Centre Frame 'A' Precinct in accordance with the infrastructure agreements between the Council, the State Government and the principal developer. Development within the precinct will be serviced prior to the commencement of the intended use. A summary of key engineering services is provided below.

4.6.1 Water Supply

The major water supply main is to be located in the proposed extension of North Lakes Drive along the southern boundary of the precinct and water reticulation provided in all streets fronting the precinct. The precinct will be connected to this reticulation.

4.6.2 Sewerage

Sewerage infrastructure will be provided by a gravity sewer to the south-west of the precinct to connect to the Pine Rivers Shire Council reticulation system.

4.6.3 Energy

Electricity supply will be provided in all streets fronting the precinct by Energex or another appropriate supplier of electricity by underground cable. Gas services will be provided in all streets fronting the precinct by an appropriate supplier of gas services.

4.6.4 Communications

Communications services will be installed underground along all road boundaries to the precinct. A communication tower may be located within this precinct.

4.7 Stormwater Management

The precinct is part of the Saltwater Creek catchment and generally drains to the north. The precinct is within the area of the Tributary C Stormwater Management Plan and stormwater must be managed in accordance with that plan.

5 DESIGN INTENTS & PERFORMANCE CRITERIA

5.1 Introduction

The following design intents and performance criteria for various design elements are intended to complement and expand upon the design and siting measures provided in Section 5.4 of the DCP. The supplementary performance criteria established in the precinct plan, together with the measures in the DCP Section 5.4, provide the basis for a comprehensive approach to formulation of the Town Centre Frame 'A' Sector Plan(s).

Compliance with the design and siting measures contained in the DCP and the design intents and supplementary performance criteria established in this precinct plan will achieve an acceptable level of performance in the planning, design and development of the Town Centre Frame 'A' Precinct.

5.2 Building Setbacks

5.2.1 Objectives

To ensure that building are positioned to achieve the streetscape character outcomes required by this precinct plan and the DCP.

5.2.2 Performance Indicators

- (a) For all development within this precinct, the building setbacks are to:
 - (i) include variations so as to ameliorate the visual effects of building length and bulk;
 - (ii) ensure that any medium or high rise buildings will include a podium base to create a desirable pedestrian environment.
- (b) For development of sites in the precinct fronting North Lakes Drive:
 - (i) zero setbacks for the buildings framing the intersection of North Lakes Drive and The Corso and all buildings fronting North Lakes Drive, to contribute to the creation of a well-proportioned pedestrian environment between North Lakes Drive and the town centre core;
 - (ii) contiguous building frontages for all development fronting North Lakes Drive, except where car parking and pedestrian entries are required;
 - (iii) buildings fronting North Lakes Drive will provide definition and enclosure to the street environment and clearly define the access points to the precinct;
 - (iv) development is to be sensitive to issues of sunlight penetration to urban outdoor areas; and
 - (v) any medium or high rise buildings will include a podium base to create a desirable pedestrian environment.
 - (vi) ensure that building services are arranged and provided from the rear and fully screened from the street.

- (c) For development of sites in the precinct fronting The Corso and the East-West Road:
- (i) generally zero setbacks for all buildings fronting The Corso;
 - (ii) zero setback for buildings situated on the corner of The Corso and the East-West Road;
 - (iii) generally zero set back for other buildings fronting the East-West Road;
 - (iv) building frontages to the streets must be open and may be varied through the use of wide entries or colonnading or other similar treatments which invite the public into the site without losing the definition of the street edge;
 - (v) development in the precinct will provide clearly defined pedestrian and vehicular access to the street environment;
 - (vi) development is to be sensitive to issues of sunlight penetration to urban outdoor areas; and
 - (vii) any medium or high rise buildings will include a podium base of two storeys with the podium defining the edge of the street to create a desirable pedestrian environment.

5.3 Site Coverage

5.3.1 Objectives

- *To ensure the proposed finished levels of activities within the precinct take account of the proposed finished levels of other activities within the precinct.*
- *To encourage a high intensity of land uses and building density within the precinct in order to establish vibrancy, vitality, viability and efficiency of the Town Centre as a commercial and social centre for a new town and as a focus of the Shire's northern Major Employment Centre.*

5.3.2 Performance Indicators

- (a) The following measures relating to building site coverage should be achieved for all development:
- (i) Buildings may occupy a total site within the town centre frame (mixed use area), providing that:
 - a) development is in context with, and visually compatible with the appearance of, any neighbouring buildings;
 - b) any required pedestrian thoroughfare is accommodated within the site;
 - c) adequate pedestrian facilities including pedestrian shelters are provided at ground level;
 - d) open space is provided in accordance with the infrastructure agreement;
 - e) sufficient on-site car parking is provided.
 - (ii) Buildings are to maintain a high level of accessibility for pedestrians to land use elements of the town centre frame; and
 - (iii) Buildings are to maintain sufficient openness to achieve a high degree of environmental, visual and landscape amenity for pedestrians and land use elements.

5.4 Building Design

5.4.1 Objectives

- *To promote building designs which minimise undesirable visual impacts of bulk and scale.*
- *To enhance public safety and convenience in the design of buildings, pathways, civic spaces and public car parking facilities, particularly given the intention of the precinct to function over extended hours.*
- *To develop a high quality pedestrian environment with vital and attractive street frontages and attractive and useable key urban spaces.*

5.4.2 Performance Indicators

(a) For all developments within the precinct, the building designs are to:

- (i) Contain building forms which include:
 - continuous pedestrian shelter for the frontage to a pedestrian thoroughfare whether provided as a free-standing shelter or as part of a building frontage;
 - open framed appearance possibly with layered façade treatments;
 - recessed windows in external walls;
 - outward orientation of shop fronts to provide integration with other core and frame uses;
 - articulation in lengthy facades;
 - continuous landscaping for the frontage to a pedestrian thoroughfare;
- (ii) ensure the primary façade of a building preferably will address the street. The façade of a building addressing a street must be attractive and varied in keeping with adjacent development;
- (iii) contain building forms which complement and integrate with those of adjacent buildings in terms of their architecture, height and bulk and generally will avoid the use of heavy mass building forms, particularly on sites fronting a pedestrian thoroughfare;
- (iv) allow building heights generally will be low to medium rise with occasional high rise development on sites identified on a sector plan as being suitable for such development;
- (v) include orientation to reduce energy requirements so that the long side of buildings align wherever possible on an east-west axis.
- (vi) create a high level of visual interest befitting the important town centre location of the precinct;
- (vii) be of a proportional scale to their surroundings;
- (viii) reflect a distinctive contemporary architectural style, with all buildings sharing a palette of compatible finishes, colours and details that will create a strong sense of place;
- (ix) ensure barrier free access for all pedestrians and for people with a disability; and
- (x) ensure that each stage of development is designed as a complete architectural composition.

- (b) For development fronting North Lakes Drive, in addition to the criteria set out in (a) above, the building designs are to:
- (i) provide a strong urban design link with the intended or any existing development on the opposite side of North Lakes Drive;
 - (ii) achieve a high level of integration of building design and landscaping with the North Lakes Drive streetscape environment, external pedestrian thoroughfares, adjacent public spaces, and the major shopping centre development area;
 - (iii) relate strongly to the urban public spaces, by creating attractive, inviting, outward oriented built form;
 - (iv) at the ground level only contain small scale incidental tenancies which have active frontages to North Lakes Drive;
 - (v) not include articulated or broken frontages nor have internal service bays accessed from North Lakes Drive. Any service bays for these buildings must be accessed from the internal laneway;
 - (vi) contain continuous active frontages. The description of these active frontages is to be developed in the Sector Plan, and full details are to be provided with the appropriate material change of use applications. The facades fronting North Lakes Drive shall feature flexible frontages, such as bi-fold doors or swing doors. Manually operated sliding glass doors are not acceptable. If other forms of openings are proposed, they must not detract from the planning intentions for active frontage development.
 - (vii) focus on the intersection of The Corso and North Lakes Drive as Stage one and progressively develop the built form along North Lakes Drive and The Corso;
 - (viii) comply with the intent setout in section 4.2; and
 - (ix) define the edge of the town centre frame, as well as providing a strong urban design link with development in the town centre core on the opposite side of North Lakes Drive.
- (c) For development fronting The Corso, in addition to the criteria set out in (a) and (b) above, the building designs are to:
- (x) provide a strong urban design link between the Town Centre Core and Lake Eden;
 - (xi) achieve a high level of integration of building design and landscaping with The Corso streetscape environment, external pedestrian thoroughfares, adjacent public spaces, and the major shopping centre development area;
 - (xii) relate strongly to the urban public spaces, by creating attractive, inviting, outward oriented built form;
 - (xiii) at the ground level only contain small scale incidental tenancies which have active frontages to The Corso;
 - (xiv) not include articulated or broken frontages nor have internal service bays accessed from The Corso. Any service bays for these buildings must be accessed from the rear;

- (xv) contain continuous active frontages. The description of these active frontages is to be developed in the Sector Plan, and full details are to be provided with the appropriate material change of use applications. The facades fronting The Corso shall feature flexible frontages, such as bi-fold doors or swing doors. Manually operated sliding glass doors are not acceptable. If other forms of openings are proposed, they must not detract from the planning intentions for active frontage development.
 - (xvi) focus on the intersection of The Corso and North Lakes Drive as Stage one and progressively develop the built form along North Lakes Drive and The Corso; and
 - (xvii) comply with the intent setout in section 4.2;
- (d) For development fronting the East-West Road, in addition to the criteria set out in (a), (b) and (c) above, the building designs are to relate strongly to the urban public spaces, by creating attractive, inviting, outward oriented built form while also providing an attractive form to the car parking areas at the rear of development sites

Figure 6 - Urban Design Character Sketches, shows an urban design sketch. The sketch is indicative of some desirable characteristics. They are not intended to represent the final architectural design of development within this precinct. The Council is currently proposing to undertake a detail design process in relation to the North Lakes Centre. The outcomes of the design process will need to comply with the provisions of this precinct plan. The sketches produced by this process may be included as part of this precinct plan, through the amendment process.

5.5 Landscaping/Townscaping

5.5.1 Objectives

- *To ensure that townscape outcomes are of a high standard.*
- *To ensure that landscaping provides visitors with a full range of visual clues for orientation, differentiation and direction to particular parts or activities within the precinct.*

5.5.2 Performance Indicators

For all development, townscape and landscape treatments are to:

- (i) provide adequate landscaped areas are to be provided to create a landscape theme consistent with, and extending the setting of, the town centre core, as well as to provide passive recreation space and to break up the scale of the buildings and car parking areas;
- (ii) allow landscaping/townscaping in pedestrian thoroughfares, streets and public spaces is to provide visual themes linking different activity areas within the town centre frame;
- (iii) in highly visible areas, such as those fronting pedestrian thoroughfares and streets in the town centre frame, are to be landscaped to provide a high degree of visual interest;

- (iv) include with landscaping for surface car parking areas is to include advanced shade trees planted at a rate not less than 1 tree per 6 vehicle spaces, and screening trees and shrubs planted so as to screen car parking areas from roads and other areas readily accessible to the public;
- (v) include high quality urban art, including paving patterns, water features and sculptures, are encouraged to enhance the architecture and landscape of the town centre frame.
- (vi) provide a cohesive landscape framework and texture within which buildings and other functional elements of the precinct may be integrated;
- (vii) reflect a comprehensive approach to landscaping as a means of linking elements in the town centre frame with the town centre core, by creating a distinctive overall image of co-ordinated and planned development;
- (viii) provide outdoor fittings and furniture together with opportunities for the strategic location of selective works of public art within the precinct. Individual elements are to be of good quality materials and design, and should achieve a strong design continuity with the architecture and landscape planting;
- (ix) frame key vistas to and from the town centre and Lake Eden;
- (x) mitigate the visual impact of lengthy building facades and building bulk;
- (xi) ensure the appropriate pedestrian treatment is provided within the streetscape to match the level of development fronting the pedestrian environment; and
- (xii) ensure services such as electricity substations and transformers are fully screened and landscaped in a way which does not impact on the streetscape.

5.6 Car Parking, Service Areas & Loading Docks

5.6.1 Objective

To provide attractive, safe and efficient car parking and building services and circulation systems within the precinct.

5.6.2 Performance Indicators

- (a) For all development in the precinct, the car parking areas are to:
 - (i) ensure that large expansive car parking areas are sited so as to effectively screen their impact upon pedestrian thoroughfares, the street frontage of the site and from other areas readily accessible to the public;
 - (ii) ensure that loading docks and service vehicle storage areas are screened to ameliorate such impacts as unsightly appearance, noise, headlight glare and unpleasant odours;
 - (iii) ensure that pedestrian and vehicle circulation is designed to reduce potential conflict points;
 - (iv) include appropriate lighting is provided for after hours safety and security purposes;
 - (v) provide a circulation system for transport vehicles such as taxis and buses are to be designed to be convenient and reduce potential conflicts with pedestrians and other vehicles;
 - (vi) provide a strong landscape edge to all car parking areas, in particular where they abut road frontages;

- (vii) provide adequate car parking in locations convenient and accessible to the main activity areas, particularly in The Corso;
- (viii) provide opportunities for shared use of car parking;
- (ix) provide car parking areas that are responsive to the topography of the precinct; and
- (x) provide convenient and attractive pedestrian access to public transport facilities, seating and shelter facilities.
- (xi) provide adequate areas for staff carparking which will be specifically designated and are available for staff park all year round.
- (xii) provide a safe, convenient, direct and attractive dedicated pedestrian, pathway between each pedestrian access of the development and the landscaped carpark area.
- (xiii) provide sufficient vehicle spaces, conveniently located, for emergency vehicles;
- (xiv) provide sufficient vehicle spaces, conveniently located, for people with disabilities;
- (xv) provide pedestrian route access through the carpark for people with disabilities;
- (xvi) ensure that the car parking, service vehicle and access systems are capable of being used at a level of safety consistent with community expectations with emphasis on the safety of pedestrians;
- (xvii) ensure that the car parking, service vehicle and access systems are capable of being used without causing unreasonable congestion on the external road system, and without causing unreasonable detriment to the local community through such effects as excessive on-street car parking, noise generation, or traffic intrusion into adjacent streets;
- (xviii) ensure for traffic-generating developments with access via signalised intersections or roundabouts the dedication of sufficient land as public roadway to ensure lawful priority of traffic movements with respect to the Traffic Act;
- (xix) ensure driveways satisfy the basic traffic design criteria for all intersections with regard to driver behaviour, safety of pedestrians and vehicle characteristics;
- (xx) ensure entry and exit driveways provide for queues of vehicles so that queues do not disrupt traffic operations on the external streets;
- (xxi) restrict vehicles to low speeds in the vicinity of pedestrian activity achieved through use of appropriate road geometry or physical devices designed to limit speed;
- (xxii) provide sight distances, appropriate for the likely operating speeds in all areas of potential pedestrian/vehicle and vehicle/vehicle conflict;
- (xxiii) ensure no reversing of vehicles, particularly service vehicles, shall occur in areas of high pedestrian activity;
- (xxiv) ensure on-site traffic congestion does not impact on the external traffic system;
- (xxv) have minimum and maximum gradients of car parking areas determined on the basis of the type of surface, vehicle performance, user comfort, likely operating speeds, the manoeuvrability of shopping trolleys and prams and access for people with disabilities;
- (xxvi) provide sufficient spaces for bicycles and motorcycles conveniently located for users;

- (xxvii) provide sufficient bicycle lockers for staff to promote cycling to and from work;
 - (xxviii) provide for servicing by commercial vehicles including the largest service vehicle likely to access the site;
 - (xxix) be designed, constructed and maintained so that the pavements are structurally sufficient for the anticipated future traffic and landscaping needs; and
 - (xxx) have surface and underground stormwater drainage systems which satisfy the objectives and design philosophy as described in the Queensland Urban Drainage Manual.
- (b) For all development, the building services areas are to be suitably located and designed.
- (c) For all developments, applications must be supported with reports by a Registered Professional Engineer with experience in traffic engineering. Any traffic report will include:-
- (i) A review of the impact on public roads in the precinct for all stages of development of those public roads with traffic operating conditions based on an appropriate planning horizon-year (minimum 10 years).
 - (ii) Estimates of traffic generations with appropriate directional distributions during selected peak design periods.
 - (iii) Predictions of operating conditions with and without the proposed development, including recommendations on external roadworks upgrading requirements relevant to that development.
 - (iv) An assessment of the access, circulation and parking arrangements proposed, particularly with respect to their compliance with the precinct and sector plan , including certification of compliance and justification for any specific non-compliance.
 - (v) A list of all of the assumptions made in the preparation of the report, and a list of the design parameters adopted in the technical analysis.
 - (vi) Consideration of traffic operations, parking and any temporary works required during construction.
- (d) For all developments, the design of the car park including pavements and stormwater drainage must be undertaken by a Registered Professional Engineer of Queensland who must certify compliance with the applicable codes for these development works. The construction must also be inspected by the Registered Professional Engineer of Queensland who must certify that the construction has been undertaken in accordance with the approved car park design.

5.7 Signage, Colours and Materials

5.7.1 Objectives

- *To create a distinctive, vibrant, urban landscape appropriate to the Town Centre as the physical, social and commercial focus for the North Lakes community.*

- *To provide a coordinated system of signs that make it easy for the public to orient themselves and identify key attractions and facilities, as well as contributing to the overall visual identity of the Town Centre t.*

5.7.2 Performance Indicators

For all development in the precinct, the car parking areas are to:

- (i) ensure the form, scale, materials and colour selection of signage must be in keeping with the character of the town centre frame and must not dominate the urban landscape at ground level;
- (ii) provide for roof-top and pylon signage may be permitted where it lends to the town centre frame image of an intensive activity centre;
- (iii) provide for signage which allows for materials and colours related to potential end users' commercial requirements modified as necessary to ensure a degree of harmony between development sites and the overall visual character of the town centre frame;
- (iv) ensure colours for external walls and surfaces of buildings in the town centre frame are compatible with the overall visual character of the town centre frame;
- (v) limit the use of highly reflective finishes.
- (vi) ensure overall unity and harmony in major materials and colours in buildings and exterior signage throughout the precinct;
- (vii) ameliorate the visual impact of lengthy facades through combinations of materials and colours coordinated with building detail treatments and landscaping themes; and
- (viii) ensure that external graphics contributes to the visual character of the streetscape and are designed as an integral element of the architectural design.
- (ix) not impact on traffic safety

In addition, the following measures should be achieved:

- (a) Architectural graphics may be designed as part of the architectural character of development in the precinct; and
- (b) Signs should be relative to the scale and proportion of buildings.

5.8 Environmental Management

5.8.1 Objective

To identify strategies to manage key environmental risks through the design, construction and operational phases of any development within the precinct.

5.8.2 Performance Indicators

For all development in this precinct, the environmental management is to:

- (i) ensure building services, plant rooms and equipment rooms located on roofs or externally around buildings are to be sited, designed and constructed in order to:
 - form an integral part of the overall development on an allotment;
 - generally not be visible from pedestrian thoroughfares, streets or other areas readily accessible to the public; and
 - protect the amenity of the area from noise, vibration, smells, fumes, electrical interference or otherwise; and
- (ii) Environmental management structures or control devices, such as gross pollutant traps, waste disposal bins, flues and the like, are to be designed so as not to detract from the overall visual character of the town centre or the immediate locality.

Further requirements are outlined in **Section 6 - Environmental Management Objectives** of this precinct plan.

5.9 Transit Centre Pedestrian and Cyclist Access

5.9.1 Objectives

To provide convenient and attractive pedestrian and cyclist access to public transit facilities.

5.9.2 Performance Indicators

Establish key pedestrian and cycle links which are integrated with the overall path and bikeway master planning for the DCP area.

6 ENVIRONMENTAL MANAGEMENT OBJECTIVES

Development of the Town Centre Frame 'A' Precinct presents a range of environmental management issues that are required to be managed effectively throughout the design, construction and operational phases of any development of the precinct.

The objective will be to identify strategies for managing the key environmental risks occurring during both the construction and the operational phases of the development.

The following objectives and performance criteria provide a summary of the environmental issues that will, inter alia, need to be considered as part of the detailed planning and design for the major shopping centre development area and other related development within the precinct. These environmental requirements will need to be outlined in greater detail in the subsequent sector plan(s).

6.1 Design & Construction Phase

Site management and operational works during the design and construction phase of any development within the precinct will address, but not necessarily be limited to the following key issues:

6.1.1 Earthworks Management

Objective

To adopt appropriate environmental management practices to avoid, or mitigate and manage, the potential adverse effects of earthworks and related land development activities.

Performance Criteria

- (a) Identify the extent of acceptable earthworks activities consistent with the protection of overall environmental values and prepare designs complying with these limitations (refer section 5.3);
- (b) Erosion and Sediment Control - Implement appropriate soil erosion protection measures, and monitor and maintain;
- (c) Bulk Earthworks -Manage the excavation and reshaping to establish the finished surface profile which seeks to minimise the environmental impact of the earthworks on the surrounding environment; and
- (d) Comply with the Environmental Protection Act, Environmental Protection Policies and other relevant legislation from time to time.

6.1.2 Stormwater Management

Objectives

- *To manage stormwater within and from the precinct so as not to cause a nuisance or annoyance to any person; and*
- *To permit discharge of stormwater from upstream catchments through the precinct, if applicable.*

Performance Criteria

- (a) Implementation of management systems which seek to control the quality of surface water in compliance with:
 - (i) the *Environmental Protection Act 1994* and the *Environmental Protection Policy (Water)* and other relevant legislation.
 - (ii) the planning scheme, local laws, the Design Manual and policies except where Clause 2.6 of the Mango Hill Infrastructure Agreement applies;
 - (iii) the Mango Hill Infrastructure Agreement;
 - (iv) The performance objectives of the Saltwater Creek Catchment Management Plans; and
 - (v) the Stormwater Management Plan for Tributary C.
- (b) Control of volumes and flows from this precinct for all storm events so as not to cause nuisance or annoyance to any person.
- (c) Adequate provision during construction to ensure that the landform is stabilised and erosion is controlled in accordance with an erosion and sediment control strategy endorsed by Council.
- (d) Point sources of pollution in the catchment will be identified and their impact minimised until they can be eliminated.

6.1.3 Air Quality

Objective

To minimise the effects of traffic and construction works on air quality.

Performance Criteria

- (a) Adopt effective air pollution mitigation measures to comply with the *Environmental Protection Act 1994*, *Environmental Protection Policy (Air)* and other relevant legislation from time to time in relation to dust, smoke, fumes and gases; and
- (b) Construction activities are to comply with Council's Policy LP32.

6.1.4 Acoustic Conditions

Objective

To minimise noise effects of traffic and construction activities on urban residential areas and limit undue impacts on other land use activities.

Performance Criteria

Implement effective noise mitigation measures to comply with the *Environmental Protection Act 1994*, *Environmental Protection Policy (Noise)* and other relevant legislation from time to time.

6.1.5 Dirt/Mud on Public Roads

Objective

To minimise site-generated dirt / mud on public roads, particularly after rain periods.

Performance Criteria

Implement management and maintenance actions in accordance with Best Management Practice.

6.1.6 Flora and Fauna

An environmental assessment has been undertaken for the Town Centre Frame 'A' Precinct and shows there are no vulnerable species or vulnerable species habitat areas within the precinct.

6.2 Operational Phase

Commencing from the completion of construction, the operational phase will address the following issues:

6.2.1 Stormwater Management

Objectives

- *To manage stormwater within and from the precinct so as not to cause a nuisance or annoyance to any person;*
- *To ensure that stormwater infrastructure constructed within the catchment of the Tributary C catchment of Saltwater Creek is designed to meet agreed discharge standards for specific stormwater pollutants;*
- *To identify potential pollutants from uses conducted in this precinct and implemented strategies to manage any potential environmental harm;*
- *To ensure that stormwater discharge from the precinct is an acceptable quality particularly in relation to oils, grits, organic litter, inorganic litter, , hydrocarbons, nitrogen, and phosphorus;*
- *To maintain peak flow at agreed levels as identified in the approved stormwater management plans; and*

- *To permit discharge of stormwater from upstream catchments through the precinct in accordance with the MHIA and the relevant Stormwater Management Plan.*

Performance Criteria

- (a) Implementation of management systems which seek to control the quality of surface water in compliance with:
 - (i) the *Environmental Protection Act 1994* and the *Environmental Protection Policy (Water)* and other relevant legislation from time to time;
 - (ii) the planning scheme, local laws, the Design Manual and policies except where Clause 2.6 of the Mango Hill Infrastructure Agreement applies;
 - (iii) the Mango Hill Infrastructure Agreement;
 - (iv) the performance objectives of the Saltwater Creek Catchment Management Plan; and
 - (v) the Stormwater Management Plans for Tributary C.
- (b) Control of volumes and flows from the precinct for all storm events so as not to cause nuisance or annoyance to any person.
- (c) Submit Environmental Management Plans with all applications for development permits for material change of use which identify the likely pollutants associated with that use and the strategies proposed to manage any potential environmental harm associated with that use. The Environmental Management Plans must address oils, grits, organic litter, inorganic litter, hydrocarbons, nitrogen, and phosphorus, in particular.

6.2.2 Lighting

Objective

- *To ensure that lighting associated with development does not create a nuisance.*
- *To create a distinctive night-time character for major vehicular and pedestrian approaches and special places within the precinct.*

Performance Criteria

Implement design elements and buffer treatments to control the obtrusive effects of outdoor lighting where it is likely to adversely affect residential amenity and traffic safety.

6.2.3 Noise

Objective

To ensure that noise generated does not create a nuisance.

Performance Criteria

- (a) Noise generated from development is reasonable for the type of use;

- (b) Buildings used for purposes which require low noise intrusion, including residential uses, must be designed to adequately ameliorate noise from external sources within and external to the precinct.
- (c) Provision of traffic noise amelioration in accordance with Council Policy LP25.

6.2.4 Energy Efficiency

Objective

To encourage energy efficiency in order to minimise greenhouse gas generation.

Performance Criteria

- (a) Implement design elements in buildings including overall building design, building orientation, building materials and mechanical and electrical plant to improve energy efficiency
- (b) Implement building energy management systems that contribute to overall building energy efficiency.

7 INFRASTRUCTURE OBLIGATIONS OF PRINCIPAL DEVELOPER

7.1 Overview of Infrastructure Obligations

The infrastructure required to be provided by the principal developer to serve the precinct includes internal and external infrastructure to be provided in accordance with the MHIA and infrastructure agreements made with the State Government in accordance with the DCP.

The infrastructure obligations relevant to the Town Centre Frame 'A' Precinct are summarised in this precinct plan:

7.1.1 Roads

(a) Unless otherwise agreed with Council, construct the following roads including carriageways, stormwater drainage, verges, bus setdowns, footpaths, bikeways, landscaping, traffic control devices and street lighting. Any reference to construction in this section is a reference to construction approved by Council in accordance with the rezoning conditions, and the MHIA and where applicable the Mango Hill Infrastructure Agreement - Main Roads (MHIA - MR).

- (i) All internal roads and access streets;
- (ii) A four-lane arterial road (North Lakes Drive between Node I and The Corso) in accordance with the MHIA. The initial stage of operation will be as a two-lane road.

Kerbside parking in North Lakes Drive is to be restricted on the major shopping centre side of North Lakes Drive, across the frontage of the major shopping centre, to allow two-lane westbound traffic operation, if and when the calculated “degree of saturation” of the intersection of North Lakes Drive and The Corso exceeds 90% based on actual traffic counts, at peak periods within a typical shopping week, or when observation indicates that queues on the approaches to the intersection are failing to clear in a single traffic signal cycle more than three times in one hour during such periods and cannot be alleviated by localised intersection or traffic signal improvement.

- (iii) Signalisation of the intersection at Node I in accordance with the MHIA; and
 - (iv) Bikeways and pathways in accordance with the MHIA.
- (b) The construction of the above infrastructure is to be undertaken in accordance with the staging and timing outlined in the MHIA.

7.1.2 Water

- (a) Construct external reticulation systems to service all lots in the precinct;
- (b) Construct a water supply network within the DCP area, including those sections of the mains shown on **Figure 8**, necessary to service the anticipated demand in the precinct.

7.1.3 Sewerage

Construct all external sewerage systems to service the lots in the precinct, and unless otherwise agreed with Council, construct the trunk gravity main TM1, pump station PS1 and rising main RM1 and connect to existing Council sewerage infrastructure.

7.1.4 Stormwater

- (a) Construct stormwater management works progressively in accordance with the Stormwater Management Plan(s) for Tributary C as approved by Council; and
- (b) Construct stormwater drainage systems to roads and lots as required by the MHIA and Council's Design Manual.

7.1.5 Park

No park is to be provided in the precinct, however the principal developer is to provide security for park based on 8% of the area of the Precinct and Park Enhancement Works in accordance with the MHIA.

7.1.6 Community Facilities

- (a) Transfer to Council 2 hectares of land in the precinct in a location satisfactory to Council to be used by Council for the purpose of a major community recreation and leisure facility.
- (b) The Council must use its best endeavours to substantially commence to construct on that land the facility on or before the 1 September 2001. The sum of \$3.8 million, indexed as required by the MHIA, is to be paid by the Principal Developer to Council progressively and proportionally during construction of the facility in accordance with clause 8.2.1 of the MHIA and clause 6.1 of the rezoning conditions.

7.1.7 Electricity Supply & Lighting

- (a) Provide underground electricity distribution to all properties within the precinct to Energex or another appropriate supplier of electricity and Council standards;
- (b) Provide public lighting to all roads, streets, and other public areas and facilities within the precinct, on North Lakes Drive between Nodes H and I and on the exit ramp and service road when constructed to the relevant Australian Standards and in accordance with the requirements of Energex or alternate supplier of electricity, Council and in the case of State Controlled Roads the Department of Main Roads.

- (c) Provide high voltage electricity services to service the precinct to Energex or another appropriate supplier of electricity and Council standards.
- (d) Provide all electricity services and distribution systems on North Lakes Drive and the road connecting Nodes AE to T as underground services, including conduits along all road verges within the precinct and adjacent roads to meet the anticipated demands of the DCP area.

7.1.8 Communications

- (a) Arrange for the installation of underground communications services for all lots in the precinct.
- (b) Arrange for the provision of underground conduits along all road verges within the Precinct and adjacent roads to meet the anticipated demands of the DCP area.

7.1.9 Gas

- (a) Arrange for the installation of gas services for all lots in the precinct.
- (b) Arrange for the provision of gas services to meet the anticipated demands of the DCP precinct plan area

7.2 State Government Infrastructure Requirements

There are no items of State Government infrastructure to be provided by the principal developer in conjunction with the development of the precinct.

A local bus service is being provided to service the precinct in accordance with the infrastructure agreement with Queensland Transport (MHIA-QT).

7.3 Infrastructure Affected by Precinct Development

- (a) The development of this precinct may place demands on the following infrastructure:

- (i) roads external to the DCP area and accessing the precinct;
- (ii) water supply infrastructure;
- (iii) sewerage infrastructure;
- (iv) stormwater;
- (v) parks;
- (vi) community facilities;
- (vii) electricity and gas supply;
- (viii) communications systems; and
- (ix) State Government infrastructure.

- (b) The infrastructure described in sections 7.1 and 7.2 of this precinct plan, together with the obligations of the principal developer under the MHIA, is required to mitigate the adverse affects on such infrastructure.

7.4 How the Required Infrastructure Relates to the Infrastructure Agreements

The MHIA describes the infrastructure which must be provided by the principal developer as part of its obligations to provide infrastructure, as envisaged by Chapter

12 of the DCP. The works described in section 7.1 are the principal developer's obligations under the rezoning conditions and the MHIA.

Infrastructure Agreements have been entered into by the principal developer with the Department of Main Roads and Queensland Transport. Any infrastructure requirements of those State Government Departments relating to this precinct will be provided in accordance with the existing or amended agreements.

7.5 Preliminary Program for Infrastructure Provision

- (a) The principal developer will provide all the infrastructure referred to in section 7.1 at times to satisfy the requirements of the MHIA which provides for the infrastructure to be constructed to meet the rate of development in the precinct. Initial infrastructure works are estimated to be constructed by August 2002. The staging of the roadworks where approved by Council will be as described in section 7.1.1 and the MHIA.
- (b) The community recreation and leisure facility site will be transferred to Council before 1 September 2001 immediately following approval by the Council of an application for a reconfiguration of a lot to create the site, and sealing and registration of the plan of survey.
- (c) The contribution of \$3.8 million will be provided as required by clause 8.2.1 of the MHIA and clause 6.1 of the rezoning conditions.
- (d) The local bus service is being provided in accordance with the MHIA-QT.
- (e) Except as described elsewhere in this clause, no other works depend on the provision of this infrastructure.

7.6 Estimated Water and Sewerage Demands

As required by the MHIA, the principal developer states as follows:

- (a) For the purpose of assessing water supply capacity, the estimated number of Equivalent Tenements for this precinct is 50 ET.
- (b) For the purpose of assessing sewerage capacity, the estimated number of Equivalent Persons for this precinct is 150 EP.