

MANGO HILL INFRASTRUCTURE DEVELOPMENT CONTROL PLAN

Precinct Plan No. 020

for

**Town Centre Frame “D” Precinct -
The Corso West**

North Lakes Development

5 May 2009

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1.0 Introduction and Statutory Context

- 1.1** The Mango Hill Infrastructure Development Control Plan (DCP) provides a process for development of land in the DCP area and for the creation of a Precinct within any part of the DCP area chosen by the Principal Developer.
- 1.2** The Principal Developer must prepare and lodge a Precinct Plan with Council for approval in accordance with the relevant provisions of the DCP.
- 1.3** This document constitutes the Precinct Plan for the **Town Centre Frame “D” Precinct – The Corso West** (Precinct Plan).
- 1.4** The area and boundaries of this Precinct are notional only. The general location of the Precinct within the DCP Structure Plan is shown on *Figure 1 – Planning Context*. The Precinct is bounded by:
- (i) Endeavour Boulevard to the north;
 - (ii) North Lakes Drive to the south;
 - (iii) The Corso to the east;
 - (iv) Lakefield Drive to the west; and
 - (v) Town Centre Frame “CF” Precinct (Precinct Plan 015) to the north-west.
- 1.5** This Precinct Plan must be read together with and in the context of the DCP.
- 1.6** The DCP, approved precinct plans and approved sector plans are to be read in conjunction with the planning scheme and Council’s local laws, policies and codes and to the extent the DCP, precinct plans and sector plans do not modify provisions of the Council’s planning scheme, local laws, policies and codes they will apply to the DCP area.
- 1.7** To the extent the provisions of the Council’s planning scheme, local laws, policies or codes are modified by the DCP, precinct plans or sector plans, then the provisions of the DCP, the precinct plans or sector plans will prevail.
- 1.8** Development in the precinct must comply with the provisions of the Precinct Plan.

2.0 DCP Interpretation

2.1 STRUCTURE PLAN

The Precinct is located within the Town Centre Frame area of the DCP as depicted on *Figure 2 – Structure Plan Context*.

Figure 3 – Precinct Plan Map and the associated text, provide a more detailed interpretation of the Structure Plan by providing information about the general location and interrelationship of structural elements such as land uses, major roads and open space for the Precinct. The Precinct Plan illustrates the generalised design intent and development layout of the Precinct in accordance with the planning framework set out in the DCP.

2.2 DESIRED ENVIRONMENTAL OUTCOMES (DEOS)

The DEOS of relevance to the Precinct are outlined in the following sections of the DCP:

- Section 5.1 (Town Centre Frame) - section 5.1.1 (a), (b) and (c) and section 5.1.2 (a), (b), (c), (d), (f) and (g);
- Section 10.1 (Transport and Circulation) – section 10.1.2 (b) and (d); and
- Section 11.1 (Environmental Protection) – section 11.1.2 (a), (c), (d) and (e).

This Precinct Plan satisfies the relevant DEOs by providing-

- (i) a range of complementary employment opportunities, facilities and services that are not provided for in Town Centre Core, as well as a gradual transition in land use and intensity from the Town Centre Core to Lake Eden, to reinforce the role of the Core;
- (ii) a high standard of urban amenity through quality siting, design and finish of buildings and structures, suitable advertising signage and extensive landscaping;
- (iii) a high level of flexibility in planning for future development within the Precinct via development which is designed to be easily adapted for a range of alternative uses as circumstances change over time;
- (iv) opportunities to diversify housing in the DCP area by allowing some mixed use development in the Precinct;
- (v) secondary access roads, including The Corso, and Lakefield Drive, which link North Lakes Drive to Endeavour Boulevard. These secondary access roads provide high levels of pedestrian activity and maximise vehicular, bicycle and pedestrian safety, convenience and efficiency; and
- (vi) sustainable development initiatives for the management of environmental risks within the Precinct.

2.3 PLANNING INTENT

The Planning Intent for the Town Centre Frame is set out in Section 5.2 of the DCP. This Precinct is intended to provide higher density development than in other areas of the Town Centre Frame, but lower levels of activity than the Town Centre Core.

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. Given the Precinct’s location adjacent to The Corso and opposite the Town Centre Core, it is anticipated that land uses within the Precinct take advantage of the highly urbanised and pedestrian friendly environment.

The land uses that are expected to locate within the Precinct include commercial services, office, restaurants, retail and some mixed-use development. Additionally, land uses that complement the adjacent Town Centre Frame “A” (Precinct Plan 008) and Town Centre Frame CF (Precinct Plan 015) are also anticipated and include community premises, emergency services and civic, recreation, entertainment and leisure uses. Uses that are appropriate to this Precinct:

- reinforce and encourage pedestrian activity;
- encourage direct business and social activity along the street and provide opportunities for people to meet;
- uses on ground floor should face and address the street to undertake business, not from within a separate shopping centre or arcade;
- have well proportioned access doorways, which remain open during normal trading hours; and
- are undertaken in premises which have frontages that are interesting to pedestrians, display activity inside and are generally transparent.

The full range of Town Centre Frame land uses may be considered if such land uses are compatible with the proposed built form. Consideration is also given to the transitional role of the Precinct between development areas in order to maintain amenity and avoid conflict between uses. Land uses are to generally integrate with the Town Centre Core and should be integrated in functional and urban design terms with adjacent Precincts.

3.0 Development, Planning and Design Principles

3.1 GENERAL FORM OF DEVELOPMENT

The built form of the Precinct is intended to be of a higher density and diversity in comparison to other development within the Town Centre Frame, but of a lower density than the Town Centre Core. This is to be achieved through designs that form a continuous edge to the streetscape, active frontages, generous footpaths, awnings and colonnades, display windows as well as a high quality streetscape urban design character. Pedestrian access from the street is to be ‘at grade’ to encourage active frontages in the development.

The mixed-use and varied nature of development within the Precinct and community development, within and adjacent to the Precinct (Precinct Plans 008 and 015), should contribute to high levels of activity during the day and night. Where mixed-use development is proposed, the residential components are encouraged to be located above ground floor level. Mixed-use developments incorporating a residential use must address residents’ needs for security, privacy and opportunities for views, as well as provide access to units separate from other uses.

Development within the Precinct should relate physically and functionally with each other in terms of architecture, location of major entries and changes in level. The architecture of any development within the Precinct should be contemporary, with variations in building form achieved by use of rooflines, shading and other features. The development should incorporate horizontal and vertical variations in the facades with attractive entries and well-lit pedestrian access. Where possible, indoor and outdoor spaces should be linked through transition areas. Consistency of overall design character within the Precinct and adjoining Precincts is to be attained through integration of building design and urban spaces, and use of similar materials, finishes, colours and details which will combine to promote a modern town centre with a strong sense of place.

Buildings along The Corso and North Lakes Drive, are to be at least two (2) storeys above street level in height and are to exhibit architecture in keeping with the town centre location. Any buildings taller than two (2) storeys may be required to be stepped back on upper levels from the frontage creating a podium to reduce shadowing and scale impacts upon the pedestrian streetscape. Balconies may be provided at or above the podium level to encourage surveillance of the street.

Where possible, buildings shall incorporate sustainable development initiatives. Buildings are generally to be orientated to maximise energy efficiency and outdoor areas shall be located to receive adequate exposure to sunlight. Buildings are to be designed to accommodate a variety of different uses through techniques such as innovative floorplate design to allow flexible separation of spaces and compatible ceiling heights.

The focal points of the Precinct are to be at the intersections of The Corso with North Lakes Drive and Endeavour Boulevard. These corners are to be emphasised through design, height and placement of landmark features, whether a building or other element. The landmark is intended to assist legibility and strengthen the urban form of the Precinct, as understood from a town planning and urban design perspective.

The built form within the Precinct should allow a high level of accessibility and convenience for pedestrians, cyclists and motor vehicles. Pedestrian thoroughfares and linkages are encouraged throughout the Precinct in order to maintain an association with the adjoining community orientated Precincts, the Town Centre Core and The Corso.

Shared vehicular access is to be encouraged between neighbouring sites within the Precinct and may be achieved via easement arrangements, if considered to be required. Direct vehicular access to sites fronting North Lakes Drive and Endeavour Boulevard is to be restricted to areas that minimise interruptions to traffic flow and maximise vehicular, bicycle and pedestrian safety. Reciprocal left in/left out access arrangements are proposed for Endeavour Boulevard, to reinforce the primary role of this thoroughfare.

Car parking is to be unobtrusive and is intended to create minimal interruption to the streetscape and pedestrian routes, through siting, landscaping and/or screening. Car parking areas are to be located behind or underneath buildings, where possible, in order to maximise shading of these areas. Where car parking areas are located to the rear of buildings, the building façade must present an attractive façade to the car parking area. Where surface car parks are located adjacent to the street, these areas are to be screened, where possible, with dense vegetation including canopy shade trees.

Canopy shade trees are also to be provided through any open hardstand area at a rate of one (1) tree per six (6) car park spaces on an open grid pattern. Undercroft car parking should, where possible, be screened from view if visible from the street or residential areas.

3.2 GENERAL FORM OF DEVELOPMENT ALONG NORTH LAKES DRIVE

The North Lakes Drive frontage of the Precinct is to be the interface between the Town Centre Core and the Town Centre Frame, and is to contribute to the establishment of a high degree of integration between these two (2) land use elements. Buildings must create a strong link with the buildings defining the opposite side of North Lakes Drive (Precinct Plan 002) through the use of consistent architectural themes, materials and finishes. The buildings along North Lakes Drive are to be actively managed and tenanted to ensure that active frontages are maintained and positively contribute to the overall level of activity in the Town Centre.

The “main street” environment of North Lakes Drive, as described in Precinct Plan 002, is to include a pedestrian-scale streetscape with buildings defining the street environment, tree-lined footpaths and high quality urban design characteristics. In the initial stages of development, North Lakes Drive is to function as a two (2) lane road with on-street short term parking provided within the road reserve along both sides of North Lakes Drive. The road may eventually operate as a four (4) lane road with the removal of the parking lanes. Bus pick-up and set-down areas will be retained if parking is removed along North Lakes Drive.

Development is to ultimately extend along North Lakes Drive from the intersection with The Corso to frame the street with a continuous edge of buildings and landscaping. Buildings are to have an outward orientated design and active frontages. The frontage development must be at least two (2) storeys in appearance from North Lakes Drive but may consist of a mix of single storey and two (2) storey tenancies. Pedestrian comfort, safety and priority are to be paramount with use of paving treatments to define, as well as, encourage use of pedestrian movement areas. Continuous pedestrian shelter is to be provided along the North Lakes Drive frontage through the use of wide building awnings or colonnades and shade structures.

Car parking areas are to be located at the rear of buildings fronting North Lakes Drive and are to be attractively landscaped in accordance with Section 4.2.6 of this report. The location of car parking must be discernable from the North Lakes Drive frontage through appropriate signage and landscaping. Services, waste storage and removal and plant areas must be accessed from the rear of buildings and must be screened in order to keep an attractive view for pedestrians.

3.3 GENERAL FORM OF DEVELOPMENT ALONG THE CORSO

The character of development fronting The Corso is to have its southern anchor in the Town Centre Core and continue north along the eastern boundary of this Precinct to terminate at the lakefront plaza at the edge of Lake Eden. This spine is to be developed as a continuous series of urban outdoor spaces, making it an ideal location for active frontage developments and pedestrian-based activities.

The Corso is to be developed as a low vehicular traffic and pedestrian-friendly environment with particular emphasis on the quality of public spaces and landscaping. The Corso is intended to function as a local pedestrian friendly urban street. It is to be constructed as a two (2) lane road with kerbside car parking set into kerbline build-outs. It is to be widened in this middle section to provide greater opportunities for community activities in the street. Planting in the kerbline build-outs is to ultimately create a high level of visual amenity and continuity with the street and provide shade to on-street car parking and adjacent pedestrian areas.

The Corso is to accommodate the high intensity pedestrian activity anticipated within the town centre, through the provision of wide footpaths offering shelter, awnings to buildings, visual interest through appropriate street plantings, public art and furnishings and high levels of accessibility for all members of the community.

Development is to ultimately address and be built-up to the street and is encouraged to be a minimum of two (2) storeys in height, or include an extended vertical podium or parapet. The scale of buildings along The Corso is to be sensitive to the creation of urban spaces appropriate to the pedestrian use of this area. Buildings along The Corso are to frame the street, with the exception of vehicle and pedestrian access points, where access is required to the rear of the development.

Integration of building design, urban spaces and landscaping is critical to achieve a visually cohesive environment. Development is to present active frontages addressing the street, with the relationship between the street and the ground level enhanced by highly accessible pedestrian entries.

Pedestrian comfort at ground level must be considered with any development along The Corso. To achieve this outcome, appropriate responses should include a combination of continuous pedestrian shelter provided by building awnings (first storey) or colonnades, shade structures, street furniture and landscaping.

Changes in gradient along The Corso are to be accommodated in a gradual slope, possibly providing appropriate public spaces, outdoor meeting areas and barrier-free access to buildings. Pedestrian entries from The Corso to car parking at the rear of development are generally to be adjacent to, however separate from, vehicle entries. Secured pedestrian entries may be provided to buildings from the car park at the rear of the development.

3.4 GENERAL FORM OF DEVELOPMENT ALONG ENDEAVOUR BOULEVARD AND LAKEFIELD DRIVE AND SECONDARY ACCESS ROADS

The desired character of development fronting Endeavour Boulevard and Lakefield Drive within the Precinct is to be achieved through a variety of landscape and architectural designs and features for each individual building. However, some consistent elements to achieve architectural and landscape harmony is required. Integration of building design and urban spaces with appropriate lighting, signage and landscaping is intended to contribute to this desired sense of place. Additionally, consistency in the overall design character of proposed buildings is to be reinforced by materials, finishes, colours and details.

The use of active frontages, a light and open building form, lightweight colonnades, landscape features, and awnings used as a means to extend indoor activities outdoor, are encouraged. Car parking areas should be designed as an attractive setting, which integrates paving, landscaping, shade trees, shading and car parking spaces. Where utility/service areas are proposed, they are to be appropriately screened and landscaped to minimise negative impacts on visual amenity and character.

The scale of buildings along Endeavour Boulevard and Lakefield Drive is to be appropriate to the setting and use of the Precinct while providing a complementary interface with the possible future mix of activities opposite and to the north of the Precinct. Buildings are encouraged to be a minimum of two (2) storeys in height along these frontages. The use of varied built forms consistent with a common theme should contribute to visual interest and a recognisable urban form of development along this frontage.

3.5 GENERAL FORM OF DEVELOPMENT ALONG THE CENTRAL PEDESTRIAN AND/OR VEHICULAR THOROUGHFARE

The pedestrian and/or vehicular thoroughfare is to be developed as a narrow, low vehicular traffic and pedestrian friendly environment. It is to operate as an active narrow city street with a functional and vibrant pedestrian and commercial atmosphere. The width of the central pedestrian and/or vehicular thoroughfare is to be sufficient to accommodate two-way vehicular access, services and pedestrian movement. The narrow width of the central pedestrian and/or vehicular thoroughfare should ensure that traffic speeds and volumes are compatible with pedestrian activity and that the secondary nature of this corridor is discernable within the road hierarchy of the Town Centre.

A well-defined pedestrian footpath is to be constructed along the length of this central pedestrian and/or vehicular thoroughfare to maximise pedestrian safety and to emphasise

the continuity of the pedestrian environment between the Town Centre Frame and the Town Centre Core. Linkages are also to be provided between the central pedestrian and/or vehicular thoroughfare and both the adjacent community facilities precinct (Town Centre Frame CF – Precinct Plan 015) to the north-west and Town Centre Frame A (Precinct Plan 008) to the east in order to maintain an association with these surrounding community orientated Precincts.

An important function of the central pedestrian and/or vehicular thoroughfare is to facilitate access to car parking and service areas located at the rear of development in order to reduce driveways onto North Lakes Drive and The Corso. The interim development character fronting the central pedestrian and/or vehicular thoroughfare is described as a mix of built-form and open car parking that is screened through attractively landscaped internal hardstand areas. However, the long-term aim of development along the central pedestrian and/or vehicular thoroughfare will be to progressively develop a continuous built-to-boundary active frontage on both sides of the central pedestrian and/or vehicular thoroughfare with car parking areas generally screened by built-form.

Buildings that are eventually built up to the central pedestrian and/or vehicular thoroughfare alignment are encouraged to be a minimum of two (2) storeys in height with active frontages. The scale of buildings must be appropriate to the use of the building and consistent with surrounding development. Development is to be designed to maximise safety and security of both persons and property. Opportunities for crime are minimised through considerate design that promotes casual surveillance.

Where the rear façade of a building addresses, or is visible from, the central pedestrian and/or vehicular thoroughfare, this façade must be well-presented and should feature a variety of architectural design elements that are consistent with the overall building design character. Consideration is to be given to topography and visibility of undercroft areas and screening is to be provided, where appropriate. Buildings located on corner sites, particularly on the corner of the central pedestrian and/or vehicular thoroughfare with North Lakes Drive and Endeavour Boulevard, are to incorporate open-framed, lightweight and attractive corner treatments to each road frontage. Built form or “book ends” at the entry of the central pedestrian and/or vehicular thoroughfare are desirable in order to enhance the active, pedestrian oriented nature of the central pedestrian and/or vehicular thoroughfare.

A high level of pedestrian connectivity is required in order to link car parking areas with building arcades and with building entries at the front of development. Public access of the rear of buildings is to be prevented. Car parking areas should be designed as an attractive setting, which integrates paving, landscaping, shading, and car parking spaces. Where utility and service areas are proposed they are appropriately screened from view and landscaped to minimise negative impacts on visual amenity and character.

4.0 Landscape Concept

4.1 LANDSCAPE CONCEPT PLAN MAP

Figure 4 – Landscape Concept Plan provides a diagrammatic framework for the creation of a distinctive urban setting and character for the Precinct.

4.2 CONCEPT OVERVIEW

The landscape concept for the Precinct is to respond to the pedestrian importance of the Precinct and of surrounding Precincts. Landscaping of the Precinct is to be complementary and responsive to the proposed architecture of the Precinct, as well as to the landscaping of the Town Centre Core.

The landscape concept is to enhance public comfort in all publicly accessible areas, through the provision of shade trees, adequate seating, appropriate paving and lighting treatments and, where possible, segregation of the vehicle and pedestrian environments.

Footpath paving treatments are to achieve a consistent theme between adjacent and surrounding development and require continuity of materials and elements while permitting easy and even-surfaces for desirable walking conditions for pedestrians.

4.2.1 Frontage to The Corso

The streetscape treatment at the intersection of The Corso with North Lakes Drive is to reinforce the pedestrian activity across the intersection, linking from the Town Centre Core to the Town Centre Frame “A” Precinct (Precinct Plan 008) and the wider Town Centre Frame. The landscape and the streetscape character of The Corso is to be designed to meet a range of community needs. Such needs include the use of adjoining open street spaces, or possible activities such as markets, ceremonies and other public gatherings.

The landscape treatment of The Corso is intended to include a high quality streetscaped urban character. Landscape planting should soften the appearance and give scale to buildings within the Precinct, articulate urban spaces, provide shade for on-street car parks and adjacent pedestrian areas and reduce glare from parked vehicles and nearby buildings.

The verges on both sides of The Corso are to be consistently framed with appropriate landscape and canopy trees to establish a “day one effect”. The landscape character of the The Corso is to be closed and shaded, with tree canopies desirably arching across the carriageway. This is to be in contrast to the more open “main street” environment along North Lakes Drive.

Landscaping and street furniture must exhibit a general design theme and continuity of materials and elements, as well as create a comfortable and attractive environment. They are to contribute to the town centre identity and assist with visitor orientation and identification.

Any planting adjacent to the vehicular and pedestrian access points on The Corso must highlight the access to and from the Precinct and ensure that vehicle drivers’ sightlines are maintained.

4.2.2 Frontage to North Lakes Drive

Landscape planting along North Lakes Drive should soften the appearance and give scale to buildings within the Sector, articulate urban spaces and provide shade for on-street car parks, bus stop waiting areas and adjacent pedestrian areas.

The 6.5 metre verges on both sides of North Lakes Drive are to be consistently framed with appropriate landscape and canopy trees to establish a “day one effect”. It is proposed to have an open landscape character with themed shade trees spaced along the verges to provide partial shade to the kerbside car parking and the street furniture. Streetscape treatment must include generous footpaths, street trees, street furniture and street lighting.

Landscaping and street furniture are to exhibit a general design theme and continuity of materials and elements, as well as create a comfortable and attractive environment. They should contribute to the town centre identity and assist with visitor orientation and identification.

4.2.3 Frontage to Endeavour Boulevard and Lakefield Drive

Landscape planting along Endeavour Boulevard is to be used to provide an accent to buildings in the Precinct, rather than a screen. The landscaping along Endeavour Boulevard should reflect the traffic role and function of the road, filter the impacts of the anticipated traffic flows and recognise the transition in land uses from the Precinct to the mixed-use development likely to be established to the north of Endeavour Boulevard.

Any planting adjacent to vehicular and pedestrian access points within the Precinct must address the transitional nature between the highly pedestrian Town Centre (including The Corso and North Lakes Drive) and the through-route nature of Endeavour Boulevard. Landscaping shall promote safety and low speeds, but with due concern for maintaining sightlines.

Landscaping may be required to buffer and screen functional elements along these frontages to reduce their impacts upon the amenity and visual character of the Precinct.

4.2.4 Central Pedestrian and/or Vehicular Thoroughfare

The landscape treatment of the central pedestrian and/or vehicular thoroughfare is to be limited to hard landscape elements such as paving and street lighting in response to the traffic role, access function and narrow width of this access way. Footpath paving treatments are to achieve a consistent theme between adjacent and surrounding development and require continuity of materials and elements while permitting easy and even-surfaces for desirable walking conditions for pedestrians.

It is proposed that landscaping, including shade trees, be incorporated into adjacent private development sites to complement and enhance the harder landscape elements proposed along the central pedestrian and/or vehicular thoroughfare.

Fencing is to generally not to be provided to the central pedestrian and/or vehicular thoroughfare. However, fencing associated with temporary construction or as part of staged construction is permitted.

4.2.5 Pedestrian Linkages and Plazas

Pedestrian connectivity within the Precinct is to be provided within the street network, along shared vehicular/pedestrian access ways throughout the Precinct and there may also be opportunity to provide further links through the built form between public and private spaces, particularly along North Lakes Drive.

Where pedestrian links are identified as serving an overall purpose to assist pedestrian connectivity, provision is to be made to create an interconnected landscaped, open space and pedestrian system.

Subsequent Sector Plan(s) and applications for Material Change of Use will specify how this shall occur in particular circumstances, but it may be for example, by common pedestrian pavement surfaces, special treatment of roadway surfaces, or a particular integrated style of landscaping for pedestrian legibility.

4.2.6 Landscaped Car Park Areas

Landscaping within carparking areas is to be provided in accordance with the DCP provisions and to define pedestrian connections between carparking areas, the streetscape and buildings. Landscaping of carparking areas is to be varied and interesting through the use of different landscape treatments, to contribute to the visual interest and character of the Precinct and minimise the potentially negative appearance of the carparking facilities. Carparking aisles should also be landscaped with low planting to enhance the appearance of carparking areas, while seeking to avoid reducing visibility. Outdoor areas such as surface carparking must be planted with canopy shade trees integrated with the planned network of landscaped pedestrian and road frontage treatments.

The use of shade trees and screening through carparking areas must provide visual and physical relief from heat and glare, as well as contribute to the creation of an attractive urban landscape setting for all roads surrounding the Precinct. Shade trees are to be provided at the rate of not less than one (1) tree per six (6) parking spaces in all car park areas. Car park areas are encouraged to include appropriate shade structures integrated within the overall development, if appropriate. Undercroft car parking is to be screened from street and residential vistas.

4.2.7 Landscape Buffer Planting

Unightly functional elements, including loading docks, waste storage, collection areas and plant and building services areas require appropriate screening measures and are incorporated into overall building design.

5.0 Environmental Management

The following objectives and performance criteria provide a summary of the environmental issues that will need to be considered as part of the detailed planning and design for development within the Precinct, particularly at the Sector Plan stage.

5.1 ENVIRONMENTAL MANAGEMENT OBJECTIVES

5.1.1 Objectives

- (i) To encourage energy efficiency in order to minimise greenhouse gas generation;
- (ii) To encourage development which incorporates environmentally sustainable initiatives; and
- (iii) To manage and mitigate environmental risk.

5.1.2 Performance Indicators

For all development within this Precinct, environmental management during the design phase, construction and post-construction phases, should:

- (i) implement energy efficient design elements in buildings, including overall building design, building orientation to maximise use of positive climatic conditions such as access to sunlight and prevailing breezes, shading including overhangs, skylights and non-reflective materials, building materials and mechanical and electrical plants to improve energy efficiency;
- (ii) implement building energy management systems which contribute to overall building energy efficiency;
- (iii) adopt effective air pollution mitigation measures to comply with the Environmental Protection Act, Environmental Protection Policy (Air) and other relevant legislation in relation to dust, smoke, fumes and gases, where necessary;
- (iv) ensure construction activities comply with Council’s Policy LP32;
- (v) implement effective noise mitigation measures to comply with the Environmental Protection Act, Environmental Protection Policy (Noise) and other relevant legislation where necessary;
- (vi) ensure high levels of environmental quality are achieved through water management for example in the maintenance of landscaped areas;
- (vii) ensure noise generated from development is reasonable for the type of use;
- (viii) ensure buildings used for purposes that require low noise intrusion, including residential uses, are designed to adequately ameliorate noise from external sources within and external to the Precinct;
- (ix) implement suitable waste storage and disposal measures in accordance with Council regulations;

- (x) 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;
- (xi) implement management and maintenance actions in accordance with Best Management Practice to minimise site-generated dirt/mud on public roads, particularly after rain periods;
- (xii) ensure environmental management structures or control devices, such as gross pollutant traps, waste disposal bins, flues and the like, do not detract from the overall visual character of the Town Centre Frame or the immediate locality.

5.2 STORMWATER MANAGEMENT OBJECTIVES

5.2.1 Objective

To manage the quality and quantity of stormwater within and from the Precinct so as not to cause a nuisance or annoyance to any person, prevent erosion and flooding, maximise soil infiltration and minimise overland flow.

5.2.2 Performance Indicators

Implement management systems which seek to control the quality and quantity of surface water in compliance with the:

- (i) *Environmental Protection Act 1994* and the *Environmental Protection Policy (Water)* and other relevant legislation;
- (ii) Planning Scheme, Local Laws, the Design Manual and policies except where Clause 2.6 of the Mango Hill Infrastructure Agreement applies;
- (iii) Mango Hill Infrastructure Agreement;
- (iv) Performance objectives of the Saltwater Creek Catchment Management Plan;
- (v) Stormwater Management Plan for Tributary C;

5.3 EARTHWORKS MANAGEMENT OBJECTIVES

5.3.1 Objective

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

5.3.2 Performance Indicators

For all development within this Precinct, earthworks management during construction and post-construction should:

- (i) identify the extent of acceptable earthworks activities consistent with the protection of overall environmental values and prepare designs complying with these limitations;
- (ii) implement appropriate soil erosion and sediment control protection measures and monitor and maintain these;
- (iii) manage the excavation and reshaping (bulk earthworks) to establish a finished surface profile that seeks to minimise the environmental impact of the earthworks on the surrounding environment; and
- (iv) comply with the Environmental Protection Act 1994, Environmental Protection Policies and other relevant legislation, as necessary.

6.0 Generic Land Uses

As required by Section 2.3.2 (f) of the DCP, the intended desirable and undesirable generic land uses for the Precinct are:

6.1 DESIRABLE LAND USES

- (i) car park;
- (ii) commercial services;
- (iii) community infrastructure such as emergency services facilities and civic and cultural uses;
- (iv) office;
- (v) medium to high density residential (above ground level);
- (vi) mixed use development;
- (vii) recreation and leisure facilities such as licensed clubs, art galleries, indoor recreation facilities, and live performance theatres;
- (viii) restaurant and café; and
- (ix) retail.

6.2 UNDESIRABLE LAND USES

- (i) recycling depot;
- (ii) residential uses, not included as mixed use development; and
- (iii) retirement village.

7.0 Infrastructure

7.1 INFRASTRUCTURE TO BE PROVIDED

The following infrastructure is to be provided in the Precinct in accordance with the Mango Hill Infrastructure Agreement (MHIA), the Mango Hill Infrastructure Agreement – Main Roads (MHIA-MR), the Mango Hill Infrastructure Agreement (Queensland Transport), and the rezoning conditions.

7.1.1 Roads

- (i) All external roads (that border the Precinct); and
- (ii) Pathways and bikeways.

(refer to *Figure 5 – Road Layout*)

7.1.2 Water Supply

- (i) Reticulation systems to service all properties in the Precinct;
- (ii) Those sections of the mains shown on *Figure 6 – Water Supply Headworks*, necessary to service the anticipated demand in the Precinct; and
- (iii) Water headworks contributions.

7.1.3 Sewerage

- (i) Trunk gravity main from the existing Council sewerage infrastructure to connect with each lot in the Precinct as shown on *Figure 7 – Sewerage Headworks*; and
- (ii) Sewerage headworks contributions.

7.1.4 Stormwater

- (i) Stormwater management works progressively in accordance with the Stormwater Management Plan for Tributary C as approved by Council; and
- (ii) Stormwater drainage systems to roads and lots, including the central pedestrian and/or vehicular thoroughfare, where appropriate.

7.1.5 Electricity Supply and Communications

- (i) Provide for the construction of local utilities (Telstra Customer Access Unit) in accordance with *Figure 3 – Precinct Plan Map*.
- (ii) Allow for underground electricity distribution to all properties within the Precinct, by Energex or another appropriate supplier of electricity;
- (iii) Arrange for the provision of underground conduits along all road verges, including the central pedestrian and/or vehicular thoroughfare where appropriate, within the Precinct and adjacent roads to meet the anticipated demands of the DCP area.

7.2 INFRASTRUCTURE AFFECTED OR REQUIRED BY PRECINCT DEVELOPMENT

- (i) The development of the Precinct may place demands on the following infrastructure:
- Roads external to the DCP area and the Precinct;
 - Water supply infrastructure;
 - Sewerage infrastructure;
 - Stormwater infrastructure;
 - Parks;
 - Community facilities;
 - Electricity and gas supply;
 - Communications systems; and
 - State Government Infrastructure.
- (ii) The infrastructure described in clause 7.1 above, together with the obligations of the Principal Developer under infrastructure agreements will mitigate the adverse affects on the above infrastructure.

7.3 HOW THE REQUIRED INFRASTRUCTURE RELATES TO THE INFRASTRUCTURE AGREEMENTS

The infrastructure agreements describe the infrastructure that 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 clause 7.1 of this document are the Principal Developer’s obligations under the rezoning conditions and the infrastructure agreements.

8.0 Preliminary Infrastructure Program**8.1 PRELIMINARY PROGRAM FOR INFRASTRUCTURE PROVISION**

- (i) The Principal Developer will provide all the infrastructure referred to in clause 7.1 of this document at times to satisfy the requirements of the MHIA. Initial infrastructure works are estimated to be constructed by December 2004; and
- (ii) The local bus service will be provided in accordance with clause 8.2 (i) of this document.

8.2 INFRASTRUCTURE TO BE PROVIDED AND THE INTENDED PROVIDER

The following items of State Government infrastructure are to be provided by the Principal Developer in conjunction with the development of the Precinct in accordance with Infrastructure Agreements with the State Government. These include the provision of works to State-Controlled Roads.

- (i) A local bus service will service the Precinct in accordance with the Infrastructure Agreement with Queensland Transport; and
- (ii) The Principal Developer must contribute towards the cost of providing kerbside infrastructure associated with the public transport system. Such contribution is to be in accordance with the Infrastructure Agreement with the State Government.

8.3 OTHER WORKS DEPENDENT ON INFRASTRUCTURE PROVISION

There are no other works necessary to ensure the infrastructure required to service the development of this Precinct is provided.

8.4 ESTIMATES OF WHEN OTHER WORKS DEPENDENT ON INFRASTRUCTURE PROVISION WILL NEED TO BE PROVIDED

Not applicable – refer to Section 8.3 above.

8.5 OTHER RELEVANT INFORMATION**8.5.1 Estimated Water and Sewerage Demands**

As required by the MHIA, the Principal Developer states as follows:

- (i) For the purpose of assessing water supply capacity, the estimated number of equivalent Tenements for this Precinct is 50 ET; and
- (ii) For the purpose of assessing sewerage capacity, the estimated number of Equivalent Persons for this Precinct is 100 EP.