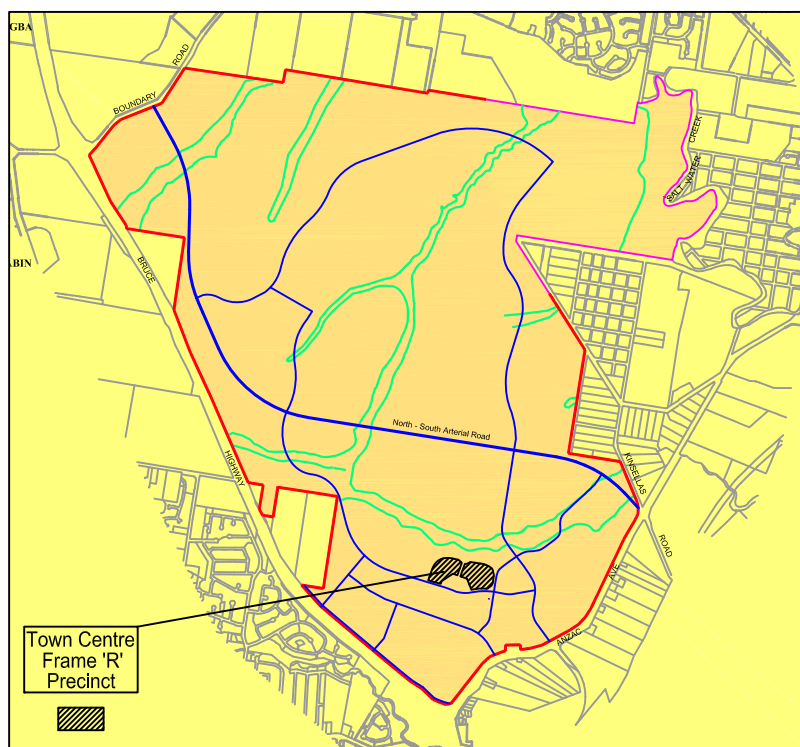


MANGO HILL INFRASTRUCTURE DEVELOPMENT CONTROL PLAN

Precinct Plan 052



Town Centre Frame 'R' Precinct

8 May 2014

MANGO HILL INFRASTRUCTURE DEVELOPMENT CONTROL PLAN

Precinct Plan No. 052

for

**Town Centre Frame Precinct R -
Lakefield Drive - Lots 954 and 955**

North Lakes Development

08 May 2014

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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 Precinct R – Lakefield Drive** (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) Lakefield Drive to the north and west;
 - (ii) Memorial Drive to the east;
 - (iii) The land is dissected by The Corso;
 - (iv) Endeavour Boulevard to the south;
 - (v) The Public Transit Interchange (PTI) and commuter car park land (Precincts 048 and 049); and
 - (vi) The existing surrounding local road network is also included within the Precinct, as it is not included in Precincts and Sectors elsewhere.
- 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), (e), (f) and (g);
- Section 10.1 (Transport and Circulation) – section 10.1.2 (a), (b),(d), (e) and (f); and
- Section 11.1 (Environmental Protection) – section 11.1.2 (a), (c), (d) and (e).

This Precinct Plan satisfies the relevant DEOs by -

- (i) contributing to a range of complimentary uses, facilities and services that are not provided for in the Town Centre Core, as well as a gradual transition in land use and development typology from the Town Centre Core to the edge of the Town Centre Frame, to reinforce the role of the Core;
- (ii) providing a high standard of urban amenity through quality siting, design and finish of buildings and structures, suitable advertising signage and extensive landscaping;
- (iii) having a high level of flexibility in planning for future development for a range of activities within the Precinct which are expected to change over time;
- (iv) providing opportunities to diversify housing in the DCP area by allowing a mix of innovative dwelling products;
- (v) appropriate access roads including Lakefield Drive and The Corso (extension) which will provide high levels of pedestrian activity and maximise bicycle and pedestrian safety, convenience and efficiency, particularly with regard to the Public Transport Interchange (PTI);
- (vi) utilising the high degree of accessibility within the regional transport network via Endeavour Boulevard to the PTI, road networks, public transport corridors and pedestrian and cycle networks; and
- (vii) providing sustainable development initiatives for the management of environmental risks within the Precinct.

2.3 PLANNING INTENT

The Planning Intent of the Town Centre Frame is set out in Section 5.2 of the DCP. This Precinct is intended to provide medium and high density residential and/or mixed use development to compliment the Town Centre Core. The Precinct is intended to provide support facilities and services to the Town Centre Core and accommodate a wide range of activities including administrative and commercial activities, facilities, and areas of medium and high density residential development. The overall community infrastructure and services, recreation and leisure facilities, public transport emphasis in development is to be upon flexibility, accessibility and integration of activity. In broad terms development along the major roads will be more intense, diverse and urbanised than in other parts such as transitional areas and in proximity to the open space system. A gradual transition will be apparent.

Land uses are to generally complement the uses within the Town Centre Core and elsewhere within the frame, and should be integrated in functional and urban design terms with adjacent Precincts. The full range of Town Centre Frame land uses may be considered if such land uses are compatible with the emerging built form.

Residential development in the Town Centre Frame is intended to broaden the diversity of housing in the DCP area. When developed on its own higher density residential development typically will address the street with only minimal setback so as to extend the urban character and formality of the streetscape. The transition areas will reflect a less intense form of development surrounded by areas of landscaped private open space and will draw landscaped open space into the town centre through interconnected formal and informal public spaces. The preferred location for medium density residential development is in close proximity to public open space.

Land uses will be receptive to the establishment of transit related infrastructure. The establishment of the Public Transport Interchange (PTI) will serve as a means to influence the nature of surrounding development and harmonise with the development established in the Precinct in keeping with the market. The PTI will also act as a means to promote The Corso as a valuable pedestrian link between Lake Eden and the Town Centre Core.

The Precinct contains four main roadways – Endeavour Boulevard, Lakefield Drive, Memorial Drive and The Corso. Each of these roads has a different streetscape, character and traffic function. The planning intent of each of these roads is as below:

(i) Endeavour Boulevard Frontage

The Endeavour Boulevard frontage of the Precinct forms a corridor of development that provides a strong link to the retail and community service activities of the Town Centre.

It is envisaged that the predominant development along Endeavour Boulevard will facilitate interaction with the street. Shopfront or business front residences accessible from the street are encouraged. An option for medium or high density residential uses, with built form relating with development on the southern side of Endeavour Boulevard, is considered appropriate. Development adjacent to this frontage must be at least two storeys, and will be encouraged to develop up to three storeys or higher. This is intended to provide a means of noise abatement for the remainder of the Precinct while capitalising on the convenient access to the Town Centre.

(ii) Memorial Drive Frontage

Memorial Drive is located in a functionally and visually prominent part of the town centre. It is an important link between the Town Centre Core and the balance of the Town Centre Frame, and precincts to the north and east.

Land uses and built form located along this frontage should take advantage of the proximity of the Town Centre Core and present a more intense diverse and urbanised form. Direct pedestrian access to open space is encouraged.

(iii) The Corso Frontage

The Corso frontage is expected to be extended to create an important link in achieving a high level of accessibility between The Town Centre Core and Lake Eden. The land use, built form and streetscape will reflect the transition in development intensity from the Town Centre Core to the open space surrounding Lake Eden and the function as pedestrian movement corridor.

Development along this frontage is encouraged to interact with the street and involve medium to high density developments with pedestrian access to the Corso street frontage address as a minimum. The built form along The Corso is encouraged to be at least two to three storeys, include a mixture of land uses along the street, offer visual interest to the street, present a transition in intensity and form and encourage visible integration of landscaped public and private open space. Considered development should emphasise pedestrian and cyclist movement with the frontage. This frontage is expected to cater for a high level of pedestrian traffic from the Town Centre Core, PTI and North Lakes Town Common.

(iv) Lakefield Drive Frontage

Lakefield Drive frontage is expected to enable connections between the Precinct and adjacent open space provisions associated with the waterfront setting of Lake Eden. It is an important link between the Town Centre Core and the balance of the Town Centre Frame through from The Corso. The area is encouraged to develop as a transition area. The design and siting of the development will reflect the town centre location, have a human scale and offer visual interest to the street. Residential development will be in low to medium rise buildings set in generous areas of landscaped private open space.

Development is to take full advantage of the waterfront setting through the inclusion of vistas and visual corridors and well located open/communal space linkages. Pedestrians and cyclists must be able to move freely along frontage without having to compete for space with vehicular traffic, facilitating greater connection to Lake Eden.

3.0 Development, Planning and Design Principles

3.1 GENERAL FORM OF DEVELOPMENT WITHIN PRECINCT

The Precinct is situated in a highly accessible and visually prominent location within the Town Centre Frame. It is also located at a key junction within the North Lakes development and is an important area for aesthetic and functional reasons given its proximity to Lake Eden and the PTI. The surrounding roadways of Memorial Drive, Lakefield Drive, The Corso and Endeavour Boulevard act as a means to link the Precinct to the balance of the Town Centre, Lake Eden and the residential community located to the north. This linkage is to be considered in terms of community function, streetscape and visual connections.

The Precinct is to emphasize innovation in building design and product offering, acting as a showpiece for medium to high density developments in the North Lakes Masterplanned Community. This sense of innovation should be achieved through consideration of varied but compatible building typologies and architectural styles. Design of the buildings and public domain must be cognisant of the impact of the PTI on amenity and provide the appropriate acoustic and visual treatments to accommodate the ongoing function of the PTI.

The architectural styles of development within the Precinct should be of a contemporary nature with variations in building form achieved by the use of rooflines, shading and other features. Indoor and outdoor spaces, where possible, are to be linked by transition areas to lessen the impact of the built form in the Precinct. Buildings within the precinct will incorporate architectural measures to add variety between buildings, as would be expected in a vibrant mixed use town centre precinct. Such a variety will be reinforced by materials, finish colours, and details that will combine to promote a distinct sense of place.

Buildings within the Precinct are encouraged to be at least two (2) storeys above street level in height. Any buildings taller than three (3) 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.

Corner buildings should have an outward orientated building design and a high quality streetscape urban design character. Unsightly functional elements, including loading docks, waste storage, collection areas, air conditioning, roof plants and plant and building service areas require appropriate screening measures and are to be incorporated into overall building design.

Development is to address the street with direct access to the street for pedestrians encouraged. The proximity of the PTI is a key consideration. The impact of the PTI upon amenity in terms of acoustic and visual treatment will be addressed through interface

elements of appropriate design, height and placement, whether as building or other elements. PTI interface design is to fit comfortably in the established character of the Town Centre Frame and assist the legibility and strengthen the urban form of the established and emerging precinct, as understood from a town planning and urban design perspective. The Precinct is to feature a highly inter-connected road and pathways network in order to minimise conflicts between vehicles and pedestrians, and to provide more direct access to the varied uses and unfettered access to the PTI. This pedestrian pathway network must also serve to support external connections from the site, providing strong linkages between the Town Centre and PTI.

Shared vehicular access arrangements are to be encouraged between neighbouring sites within the Precinct. In order to minimise interruptions to bicycle and pedestrian safety, and support the function of The Corso in providing unencumbered access to the PTI, direct vehicular access to individual sites fronting The Corso will be discouraged, in favour of a communal vehicular entry point where supported by a qualified traffic specialist. Reciprocal left in/left out access arrangements are intended for Endeavour Boulevard to reinforce the primary role of these thoroughfares.

Any car parking areas comprising extensive hardstand areas visible from the street area to be screened from view by landscaping comprised of trees and shrubs. Car parking areas are to be designed to create an attractive setting integrating paving, landscaping, shading and shade trees. 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. Where car parking areas are located to the rear of buildings, the rear façade must present an attractive interface to the car parking area. Where surface car parks are located adjacent to the street these areas are to be screened. Any alternative treatment is to be demonstrated to be compatible with the high standard of urban plaza areas established in the Town Centre Frame. Any planting adjacent to vehicular and pedestrian access points is to ensure vehicle drivers' sightlines are maintained.

Canopy shade trees are 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.

Where possible, buildings should 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.

Consistent with the DCP, it is important that flexibility be maintained in order to enable future planning to respond to changing requirements of the community and the marketplace. Unless otherwise explicit in the Precinct Plan's text, the Precinct Plan does not necessarily define the final nature or location of specific land uses, nor does it show the final location and extent of road networks.

3.2 ENDEAVOUR BOULEVARD FRONTAGE

Endeavour Boulevard is to be characterised by its primary role of facilitating traffic movements which service the Town Centre, the Mixed Industry and Business Area (MIBA) and the residential area to the west of the Precinct. The through-route nature of Endeavour Boulevard is to be emphasised through street treatments including the use of open landscaping along the verges and median strips, which allow visual exposure of the buildings from the road.

Development along the Endeavour Boulevard frontage of the Precinct must provide a defined edge and a transition between the predominantly commercial and mixed-used activities of the Precinct and the major retailing, administrative, commercial, entertainment, community and leisure facilities located within the nearby Town Centre Core.

The transitional nature of the Precinct may be emphasised by various land uses or through architectural features and building designs that are compatible with surrounding Town Centre developments such as the use of similar building materials, building height, building scale and roof pitch, with some flexibility available for innovative design assessed on merit.

Development along the Endeavour Boulevard frontage should feature a prominent building element or community focal point on the corner of Endeavour Boulevard and Memorial Drive to complement those also evidenced on the other corners of the roundabout.

Endeavour Boulevard is anticipated to be a high traffic road but consistent with the general amenity and safety standards expected in an urban area. Upon submission of a satisfactory Traffic Engineer’s assessment limited forms of vehicular access may be permitted to Endeavour Boulevard. In order to clearly define the through-route nature of Endeavour Boulevard, however, pedestrian crossings are to be limited to The Corso and Memorial Drive intersections. Landscaping should be integrated with the design of the building to provide screening or relief to retaining walls or long flat building walls.

Car parking shall generally be located away from the primary road frontages of the precinct, behind the buildings or within the future internal street network. Where public car parking areas (not staff parking) are located to the rear of buildings, the rear façade must be well-presented to the car parking area. Where surface car parks are located adjacent to the street these area to be screened. Any alternative treatment is to be demonstrated to be compatible with the high standard of urban plaza areas established in the Town Centre Frame. Any planting adjacent to vehicular and pedestrian access points is to ensure vehicle drivers’ sightlines are maintained. Pedestrian safety is to be paramount through the use of paving treatments to define and encourage the use of pedestrian movement areas at intersections.

3.3 LAKEFIELD DRIVE FRONTAGE

The built form of development, with frontage to Lakefield Drive, is to be of a lower density in comparison to other development within the Town Centre Frame but still display

innovation in design, with varied developments desired to encourage interaction between the Precinct and Lake Eden.

Development should interact with the pedestrian environment along Lakefield Drive to promote pedestrian safety through urban design. Opportunities for water front views and pedestrian access to units that is separate from vehicular access is required.

Development located along the frontage of Lakefield Drive should be at least two (2) storeys in height, with increased building heights encouraged on the corner of Lakefield Drive and The Corso, to assist in the definition of The Corso as a focal point of the Precinct. Where additional public open space is required under the MHIA, it is envisaged that the open space will provide for linkages to Lake Eden and the surrounding pedestrian/cyclist network.

Pedestrian access from the street is to be ‘at grade’ allow a connection to be felt between developments and the lake-side environment. Pedestrian comfort at ground level and direct pedestrian access must be balanced with appropriate landscape treatment to ensure privacy for residents. Unless presented as a feature, retaining walls and/or fences presenting to the streetscape area to be screened by landscaping, tiered at 1.5 metre vertical intervals and integrated in an overall landscape theme to the street.

Any car parking areas comprising extensive hardstand areas visible from the street are to be screened from view by landscaping comprised of trees and shrubs. Car parking areas are designed to create an attractive setting integrating paving, landscaping, shading and shade trees. 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 rear 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 suitably screened, where possible, with dense vegetation including canopy shade trees but with due concern for maintaining drivers’ sightlines. Where utility/service areas are proposed, they are appropriately screened and landscaped to minimise negative impacts on visual amenity and character.

3.4 MEMORIAL DRIVE FRONTAGE

Memorial Drive is intended to function as a commercial street providing access to the Town Centre Core and the Open Space areas surrounding Lake Eden.

Memorial Drive is to be a key link between the Town Centre and urban residential areas to the north. The through-route nature of Memorial Drive is to be emphasised through a ‘boulevard’ street treatment including the use of dense landscaping along the verges and median strips.

Buildings along Memorial Drive are to have a high level of architectural design to the street in order to contribute to its ‘boulevard’ character. While car parking is limited along Memorial Drive, further car parking shall generally be located behind the building and otherwise screened from view where practicable. Pedestrian safety is to be a priority with the use of paving treatments to define and encourage the use of pedestrian movement areas.

Unless presented as a feature, retaining walls and/or fences presenting to the streetscape

are to be screened by landscaping, tiered at 1.5 metre vertical intervals and integrated in an overall landscape theme to the street.

In order to strengthen the urban form of the Precinct, buildings located on the corner of the site should define the street environment. Corner buildings should have an outward orientated building design and where appropriate, have generous footpaths, awnings and display windows and a high quality streetscape urban design character providing integration at the pedestrian scale.

Development within proximity to the Memorial Drive frontage should be emphasised through the placement of a distinctive architectural feature and/or signage that generally announce the location of the Town Centre Frame at its northern most entry point. Built form at this location must create a transition between the primarily commercial environment of the town centre area and the lower density residential development to the north of the Precinct.

3.5 THE CORSO FRONTAGE

The key focal point of the Precinct is to be The Corso, with the desired character of development achieved through the use of active frontages which promote direct access for pedestrians and a front address facing The Corso. Vehicular ingress and egress to the development is to be limited along the extent of The Corso to ensure pedestrian and cyclist safety and support the function of the access way in providing undeterred approach to the PTI.

The Corso is expected to act as the primary route for pedestrians and cyclists travelling to and from the Town Centre Core to proposed educational establishments, commercial uses, the PTI and Lake Eden and surrounding Open Space areas. Innovative yet consistent elements are required to achieve architectural harmony. Integration of building design and urban spaces with appropriate lighting, signage and landscaping, contribute to a desired sense of place along the frontage. Additionally, innovation in the overall design of proposed buildings is to be reinforced by materials, finishes colours and details.

It is also desirable that built form along The Corso be built up to or within 3 metres of the front boundary and feature a continuous edge to the streetscape. Where mixed use developments are proposed, the ground floor uses face and address The Corso to undertake business and have well-proportioned access doorways. Premises of either a mixed use or residential nature are also encouraged to have frontages that are visually interesting and are generally transparent for the pedestrian to navigate.

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. Where possible, restricted parallel parking is to be located along The Corso frontage, albeit with limitations as to the number of hours a car can be parked.

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 this Precinct can generally be described as having an informal planting character, incorporating distinctive key character elements already established in the DCP area. These key character elements include predominantly native planting and the use of natural materials such as stone and wood within the landscape and streetscape elements.

The streetscape character of the Precinct should reflect the through-route nature of Endeavour Boulevard and the changes in land-use, character and traffic level of the balance of the Town Centre Frame. Landscaping should address the transitional nature of Lakefield Drive and Memorial Drive within the Precinct to the through-route nature of Endeavour Boulevard. Further, landscaping elements which reinforce and encourage pedestrian activity along The Corso are encouraged. The landscaping provided shall promote safety and low speeds but with due concern for maintaining drivers’ sightlines.

Landscaping within the Precinct should be used to soften the edge of built form and to disguise the anticipated building bulk, scale and mass of uses within the Precinct. Planting species should be selected to achieve this purpose. Unless presented as a feature, retaining walls and/or fences presenting to the streetscape are to be screened by landscaping, tiered at 1.5 metre vertical intervals and integrated in an overall landscape theme to the street.

Landscaping should 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. The use of these elements to enhance public comfort is particularly prevalent along The Corso and Lakefield Drive frontages. Hard landscape elements are to be constructed of high quality materials and designs and be coordinated with the architectural design.

Lighting is to be used to accentuate entries to buildings and car parking areas, with the lighting of other facades to be subdued. All pedestrian areas and paths must be provided with a safe level of lighting, with the area surrounding the PTI of particular emphasis.

Footpath paving treatments within the road reserve 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. Where possible, footpath treatments are to provide visual cues and corridors to facilitate the safe and efficient movement of pedestrians toward the PTI.

4.2.1 Endeavour Boulevard Streetscape

The streetscape and planting theme along Endeavour Boulevard should be distinct from other streets within the Town Centre and the Precinct. Streetscape treatments and landscaping should clearly indicate the through-route nature of this road and give views to the parking entrances of development. As such, Endeavour Boulevard is envisaged as wide streetscapes with a very open character.

Landscape planting along Endeavour Boulevard is to be used to provide an accent to buildings in the Precinct, rather than a screen. Landscaping is to include planting along the median strip of Endeavour Boulevard and along the verges. Landscaping should reflect the major traffic role and function of the road, filter the impacts of the anticipated traffic flows and recognise the transition in development scale and intensity between the predominantly commercial environments of the Town Centre Frame. Landscaping along Endeavour Boulevard, specifically from the Lakefield Drive to Memorial Drive intersections shall promote safety and low speeds but with due concern for maintaining sightlines.

Planting should be selected to provide shade and should be of sufficient height and density to mitigate the potential visual impact of the building bulk within the Precinct. Landscaping may be required to screen/soften functional elements along these frontages to reduce impacts upon the amenity and visual character of the Precinct.

4.2.2 Lakefield Drive Streetscape

Landscaping elements should link with those already provided around Lake Eden, creating visual synergy with the surrounding environs. Landscaping shall promote safety and low speeds but with due concern for maintaining sightlines.

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

Landscaping along the Lakefield Drive frontage should reinforce the pedestrian activity along this frontage, linking from the Town Centre Core to the Precinct and the wider Town Centre Frame.

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

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 are to contribute to the town centre frame identity and waterfront setting and assist with visitor orientation and identification.

4.2.3 Memorial Drive Streetscape

Landscape planting along Memorial Drive should soften the appearance of built form and give scale to buildings within the Sector, articulate urban spaces and provide shade for on-street car parks and pedestrian areas.

The verges on both sides of Memorial 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.

4.2.4 The Corso Streetscape

Landscaping along The Corso should assist in identifying the frontage as the focal element of the Precinct and emphasise its shared nature as a pedestrian and vehicular access route. Reinforcement and encouragement of pedestrian usage is essential, with plantings assisting in the softening of the built form and pronouncement of the human-scale.

Landscaping elements provided are to ensure the promotion of safety and low speeds for vehicular traffic, with importance given driver sightlines. This aspect is crucial due to the shared nature of the frontage.

The verges on both sides of The Corso are to be framed with appropriate landscape and canopy trees to establish a “day one effect”. The landscape character is to be consistent with a commercialised street and is to be shaded by tree canopies arching across the carriageway. This ‘closed’ effect will allow The Corso to be seen as a high quality streetscape environment and encourage pedestrian movement to and from the Town Centre Core and PTI. Further, it will provide appropriate linkage between Lakefield Drive and contrast to the more open thoroughfare of Endeavour Boulevard.

Landscaping is to provide pedestrians, cyclists and vehicular traffic with a sense of place and assist in visitor orientation and identification, with visual cues providing linkage to the PTI and reinforcing the town centre identity.

Streetscape treatments along The Corso must include generous footpaths, street trees, street furniture and street lighting. Street furniture is to exhibit a general design theme and continuity of materials and elements, as well as create a comfortable and attractive environment.

4.2.5 Pedestrian Linkages

Pedestrian connectivity within the Precinct is to be provided within the road network. Development with active frontages is to be located along The Corso as it will encourage pedestrian movement, linking the Town Centre Core to the PTI, Lake Eden and surrounding open space, commercial uses and educational establishments. There may also be an opportunity to provide further links through the built form between public and private spaces, particularly along Lakefield Drive and The Corso.

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. Appropriate measures should be taken to ensure pedestrian links to the Precinct from the South, across Endeavour Boulevard, allow for pedestrian safety regarding the through-route nature of this road. Pedestrian crossings along Endeavour Boulevard should only be located at the major intersections of The Corso and Memorial Drive and should be legible so not to limit access to the Precinct.

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 any car parking areas comprising extensive hardstand areas visible from the street are to be provided in accordance with the DCP provisions and to define pedestrian connections between car parking areas, the streetscape and buildings. Landscaping of car parking 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 car parking facilities. Car parking aisles should also be landscaped with low planting to enhance the appearance of car parking areas, while seeking to avoid reducing visibility. Outdoor areas such as surface car parking must be planted with canopy shade trees and integrated with the planned network of landscaped pedestrian and road frontage treatments.

The use of shade trees and screening through car parking 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

Unsightly functional elements, including loading docks, waste storage, collection areas and plant and building services areas require appropriate screening measures. These should be incorporated into overall building design and integrated with appropriate landscaping.

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; and
- (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 both the Freshwater Creek Catchment Management Plan and the Saltwater Creek Catchment Management Plan;
- (v) Stormwater Management Plan for Freshwater Creek; and
- (vi) 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 effects 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 civic and cultural uses;
- (iv) educational establishment;
- (v) hotel / motel;
- (vi) office;
- (vii) medical;
- (viii) medium to high density residential;
- (ix) mixed use development;
- (x) recreation and leisure facilities;
- (xi) restaurant and café;
- (xii) retail; and
- (xiii) display home (medium to high density residential).

6.2 UNDESIRABLE LAND USES

- (i) recycling depot where not associated with an existing building; and
- (ii) display home (other than medium to high density residential).

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 internal public roads; and
 - (ii) Pathways and bikeways.
- (refer to *Figure 5 – Road Layout*)

7.1.2 Water Supply

- (i) Reticulation systems along all internal roads 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 and the Stormwater Management Plan for Freshwater Creek as approved by Council; and
- (ii) Stormwater drainage systems to roads and lots.

7.1.5 Open Space

Provide open space and park in accordance with the Mango Hill Infrastructure Development Control Plan (MHIDCP), the Mango Hill Infrastructure Agreement 1999 (MHIA 1999) and the conditions of the Preliminary Approval to Vary the Effect of a Local Planning Instrument (DA/25096/2010/DA), or as otherwise agreed by Council.

7.1.6 Electricity Supply and Communications

- (i) Allow for underground electricity distribution to all properties within the Precinct, by Energex or another appropriate supplier of electricity;
- (ii) Allow for underground distribution of telecommunications services in line with requirements current at the time of development; and
- (iii) 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.

7.2 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 Developers obligations under rezoning conditions, the infrastructure agreements and Preliminary Approval to Vary the Effect of a Local Planning Instrument (DA/25096/2010/DA).

8.0 Preliminary Infrastructure Program

8.1 PRELIMINARY PROGRAM FOR INFRASTRUCTURE PROVISION

- (i) The Principal Developer will provide all infrastructure referred to in clause 7.1 of this document at times to satisfy the requirements of the MHIA. Trunk infrastructure works are estimated to be constructed by December 2015;
- (ii) The local bus service will be provided in accordance with clause 8.2 (i) of this document; and
- (iii) Open space and park land will be provided in accordance with Section 9 of the Mango Hill Infrastructure Development Control Plan (MHIDCP), Sector 7 of the Mango Hill Infrastructure Agreement 1999 (MHIA 1999) and the conditions of the Preliminary Approval to Vary the Effect of a Local Planning Instrument (DA/25096/2010/DA), or as otherwise agreed by the Council.

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;
- (ii) A public transport interchange and park and ride facilities are to be provided in accordance with the Infrastructure Agreement with Queensland Transport; and
- (iii) 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.