
Ref: 0304NBPARK/scenic quality & visual impact02

October 17, 2007

**SCENIC QUALITY AND VISUAL IMPACT.
NORTHEAST BUSINESS PARK.**

CONTENTS

1.0 EXECUTIVE SUMMARY	3
2.0 INTRODUCTION	4
3.0 SITE DESCRIPTION	4
4.0 LANDSCAPE CHARACTER	4
4.1 General Context	4
4.2 Landscape Character to the West	6
4.3 Landscape Character to the North	7
4.4 Landscape Character to the East	7
4.5 Landscape Character to the South	7
4.5 Within the Subject Land	8
5.0 VISUAL AMENITY	9
6.0 PROPOSED DEVELOPMENT	11
7.0 VISIBILITY	13
7.1 Method	13
7.2 Sections and screening capacity	14
7.3 View shed Analysis	15
7.4 Cherry Picker simulation	15
7.5 Computer Imaging	17
7.6 Visibility Summary	17
8.0 VISUAL IMPACTS	18
8.1 Master Plan	18
8.2 Community Expectations	18
8.3 Visibility	19
8.4 Compatibility	19
8.5 Lighting	20
9.0 Conclusion	20

1.0 EXECUTIVE SUMMARY

This document addresses Landscape Character and Visual Amenity issues identified in the Terms of Reference dated December 2006 issued by the Coordinator General as part of the Environmental Impact Statement response.

The subject land is extensively cleared with small fragmented areas of good vegetation and is currently being used for grazing. The location of the subject land on the flat coastal plain near the mouth of the Caboolture River means that there are very few locations within a 3km view shed zone around the subject land that have any significant elevation to allow overlooking of the subject land.

A review of the ShirePlan indicates that some of the subject land is within areas requiring Visual Amenity issues to be addressed. Council Codes indicate that some change is acceptable within these areas.

While the glimpses of the Glass House Mountains and D'Aguilar Range are possible from within the subject land, these landforms are sufficiently far away so that internal development will have minimal effect on views.

Distant glimpses are possible to proposed structures above tree lines (generally only the taller buildings around the Marina) from Beachmere Road and some limited locations in Beachmere. In most of these views, buildings will be seen against the backdrop of the D'Aguilar Ranges and with careful design, could blend with the background and therefore be of minimal visual impact.

The greatest potential impact will be from Farry Road, particularly along the road boundary and where the 6 blocks of Rural Residential back onto the subject land. However, it should be noted that the current views into the subject land from these locations have not always been possible – for example, when the subject land was used for plantation purposes. Existing fringe vegetation illustrates the potential effectiveness of vegetation in screening the proposed development from external viewpoints.

The proposed Master Plan deals with increased urban development and building height by:

- Generally locating taller structures internally away from adjoining rural/rural residential areas.
- Buffering areas with increased vegetation or new vegetation.
- Buffering the adjacent rural/rural residential areas in the southeast with vegetation, low scale development, and the open space vegetation associated with the golf course so that the taller structures around the Marina will be effectively screened.

While the proposed development includes taller structures, the impact of these structures on visual amenity will be minimal due to existing and proposed vegetation, the site layout, and ensuring that structures above canopy lines are designed to blend with the predominant colours.

SCENIC QUALITY AND VISUAL IMPACT. NORTHEAST BUSINESS PARK.

2.0 INTRODUCTION

This Scenic Quality and Visual Impact study has been prepared by Studio Tekton on behalf of Northeast Business Park Pty Ltd (NEBP) to address the issues of Landscape Character and Visual Amenity identified in the Terms of Reference dated December 2006 issued by the Coordinator General. The site locality is shown in Figure 1.

Place Planning and Design also cover Landscape Character and Visual Analysis as part of the supporting work to inform the Landscape Master Plan. However, the Landscape report is more specifically focussed on the internal character and how this informs the Landscape design of the subject land. The Scenic Quality and Visual Impact report is concerned with the wider context of the proposed development and especially the impact of the development seen from beyond the boundaries.

3.0 SITE DESCRIPTION

The major land components of the total development comprise of Lot 2 on RP902075 (28.83ha fronting the Bruce Highway), Lot 12 on RP 145197, Lot 15 on RP 902073, Lot 10 on RP902079 (515.244ha fronting the Caboolture River), Lot 24 on SP158298 (160.3791ha fronting the Caboolture River) and Lot 7 on RP845326 (55.903ha adjacent to Lot 24) with a total land area of over 769 hectares (Figure 1b). The site is bounded by:

- the Caboolture River to the North;
- cleared rural land to the east;
- Farry Road, existing rural residential development and cleared rural land to the south; and
- existing rural residential and the Bruce Highway to the west.

Lot 2 and a majority of Lot 10 are designated as "District Industry" under the Caboolture Shire Plan Zoning Maps CZ-13 and CZ-14. Lot 7, 24 and the balance of Lot 10 adjacent to the Caboolture River are designated as "Rural" under CZ-13 and CZ-14. Lots 12 & 15 zoned rural residential.

4.0 LANDSCAPE CHARACTER

4.1 General Context

The Shire consists basically of three land zones – a coastal strip, an urban spine and the rural hinterland.

Timber extraction from the 1840's opened up the area, and the land was subsequently used for agricultural production. The Brisbane to Gympie road was marked out in 1867 with the settlement of Caboolture becoming a staging point for Cobb & Co coach services and later a station on the North Coast Railway in 1888.

The old Gympie Road and North Coast Railway have played significant roles in determining the linear urban form. The Bruce Highway (which bypasses the town) now exerts a major influence on more recent development. Located well inland from the coast on predominantly flat land with a generally direct linear path, the Bruce Highway provides no opportunity for an appreciation of the coast and is a purely functional major traffic route. However, there are opportunities to glimpse some of the unique landforms to the west due to their height.

There is increasing urbanisation, both residential and commercial, around the communities of Burpengary, Caboolture, Morayfield and Narangba.

The coastal strip includes a number of mainland villages - Toorbul, Donnybrook, Sandstone Point, Beachmere and Ningi and the Bribie Island communities of Banskia, Bellara, Bongaree and Woorim. While the mainland coastal communities remain relatively low key, Bribie Island has seen considerable investment with increased commercial, retail, tourist and intense residential developments in parts of the Island.

The hinterland consists of small townships, native and plantation forests, rural residential acreages and agricultural production.

The immediate area around the subject site is part of the coastal plain adjacent to Deception Bay with the Caboolture River forming a significant landscape element (Figures 2, 3 & 4). The river follows a circuitous path before discharging through the estuarine river mouth into Deception Bay. The area around the estuary is low and gently rises towards the west with the D'Aguilar Range well back from the coastline (Figures 3 & 5). The generally flat coastline is relieved by the isolated land forms including Round Mountain, Mount Elimbah and Mount Miketeebumulgrai, just northwest of Caboolture. These elements are over 6kms from the subject site but not readily accessible to the public. The most accessible parts of the Glass House Mountains (Mount Beerburum and the Glass House Mountains Lookout) are over 16 kms from the subject site.

The existing character of the subject land is largely influenced by the previous agricultural uses. The surrounding land uses show a varied landscape character including natural, rural, rural residential, urban (including residential), and waterfront industrial.

Lots 10 RP902079, Lot 24 on SP158298 and Lot 7 on RP845326 are highly disturbed and have been subjected to previous land clearing and plantation forest activities. The Caboolture River delineates the northern boundaries of Lots 10 and 24 and is often clearly defined by vegetation (Figure 4). Both lots have vegetated sections following seasonal waterways and wetland areas. Lot 7 has a section of swampy paperbark forest transecting the lot from north to south (Figure 5). Lot 2 (between the Bruce Highway and Nolan Drive) is covered by reasonable quality

woodland. However, generally the flora is highly fragmented and extensively cleared. Uses on the site have included cotton, sugar cane, pine plantations and dairying. The site is currently used for grazing cattle.

The site is characterised by large expanses of disturbed grassland, some scattered trees, a swampy paperbark (*Melaleuca quinquenervia*) forest, areas of marine vegetation which fringe the Caboolture River and associated waterways and constructed drainage channels that are tidally influenced (Cardno 2006:4).

The subject land can be characterised as low lying flat terrain adjacent to the Caboolture River with low ridge lines running north/south along the western and south eastern boundaries. The low lying terrain is generally below 5.0 Australian Height Datum (AHD) and the ridge lines varying from 5.0 AHD to 16.5 AHD. The highest ridgeline is just east of Nolan Drive (Place Planning and Design, Figure 6a).

4.2 Landscape Character to the West

The Bruce Highway, a major public infrastructure component, forms the western boundary of Lot 2. The Highway also effectively bisects the eastern coastal plain from the west, including the Caboolture Town Centre, the Glass House Mountains and the D'Aguilar Range beyond. Travelling east from the Caboolture Town Centre, the landscape character includes relatively intense urban development associated with the Town Centre and recent fragmented single residential clusters visible from Buchanan Road, between Morayfield Road and the Highway. This is an area transitioning from rural residential to more intense urban development (single residential, Figure 15) and reflects the intent of the ShirePlan zoning maps.

The area immediately west of Lot 10 (properties fronting Trafalgar Drive) is rural residential. Some lots include dense vegetation, while others have large paddocks with some vegetation retained. The housing quality is variable and not particularly memorable. Further west of this area, across the Highway, are a mix of rural residential and the single residential clusters referred to previously.

Currently travelling along the Bruce Highway there is a mix of landscape character from the commercial activities of the BP Service Centres to the District Industry around the Caboolture Airfield. There are also areas of semi-natural values fringing the highway including vegetation of good quality. However, these semi-natural sections generally form parts of rural residential areas, larger holdings zoned for single residential subdivision or are zoned district industry and will transition over time to a more urban character. While the ShirePlan seeks to maintain "intra-urban breaks," the western area is not one of these zones as reflected by development to date and the zoning maps. Even though the Highway crosses the Caboolture River, the river is almost imperceptible from a vehicle and makes little contribution to the landscape character unlike the crossing of the North Pine River.

There is very little elevation in terms of topography or man-made elements (eg overpasses) to allow views into the site. While it is possible to glimpse the D'Aguilar Ranges to the west, these are well outside any view shed zone. Vegetation in the Rural Residential sections to the east of the Bruce Highway is of good quality and plays a significant role in screening views from external points into the subject land.

While the vegetation on Lot 2 is of reasonable quality, this will be reduced due to the widening of the Bruce Highway and the land designation.

4.3 Landscape Character to the North

The Caboolture River forms the northern boundary of the subject site and is a major element of the Landscape Character. However, this is not due to any significant water body, but more to the quality of vegetation lining the banks and defining the river's path. Northwest of the river are rural residential properties dominated by good quality vegetation. Further north is the District Industry adjacent to the Air Field.

The general character of the northern area is a mix of rural and rural residential with pockets of more intense uses including single residential and industrial. There are large areas of open ground and good quality vegetation to edges and as isolated elements in open fields. There is a small pocket of Residential A Zone (detached residential dwellings along Riversleigh Road) fronting and hidden in a turn of the river and an existing Marine servicing facility (Monty's Marina) to the northeast. Houses are generally screened by vegetation or hidden from the subject land due to the river's sinuous course.

The vegetation along the river and adjacent properties, which is generally of reasonable quality and significant height, prevents views into the subject site. The screening capacity of this vegetation plays a significant role in restricting views from external points into the subject land.

4.4 Landscape Character to the East

The landscape character to the east of the subject land is a combination of natural, rural, and coastal settlement. The land immediately east is rural. Areas around the river, and particularly towards the river mouth, where there is significant mangrove vegetation, have a more natural character.

However, this rural/natural character transitions quickly into the urban coastal settlement pattern of Beachmere on the Bay's edge at the mouth of the Caboolture River.

Vegetation adjacent to the river is of good quality and plays a significant role in restricting views from external points into the subject land.

4.5 Landscape Character to the South

The landscape character immediately south of Lot 24 is Rural, quickly changing to Rural Residential. Southeast of Lot 7 is a small section of Rural in a predominantly rural residential area. The rural residential is mixed in that the blocks to the east and north of Farry Road are significantly smaller than the adjacent blocks. In particular, the 6 lots north of Farry Road, being a smaller rural residential configuration, have less vegetation allowing the residences to be seen more clearly in the landscape. The current predominantly cleared nature of Lots 7 and 24 allows views from Farry Road and abutting lots north through the subject land to the Caboolture River edge. While the views into the subject land are currently quite extensive from these

locations, it should be noted that the views are dependent on the use of the land (for example, when used as a pine plantation, the views into the subject land would have been severely restricted). While there is some reasonable vegetation in this area, it is more isolated and doesn't perform the screening role evident in other locations. Lot 7 also has a portion of good quality paperbark wetlands which has a very natural character.

South of Lot 10 are larger rural residential allotments, where the residences are not readily visible from the subject lot. Although Buckley Road terminates on the boundary of Lot 10, the character along the road is a mix of rural residential and natural with no significant views into the site apparent. Adjoining land in the southwest corner, and south of Lot 2, tends towards a natural character (even though a rural residential designation) with significant vegetation, in terms of density and height. This provides a significant screening element between the residential component of the rural residential designation, and the subject lot.

4.5 Within the Subject Land

Within the subject land there is a mix of character including natural and highly modified rural elements.

At certain points close to the river, various land patterns across the river are clearly discernable; the residential land pattern of Riversleigh Road including boat moorings, the industrial use of the shipyard (Monty's Marina), and the rural grazing land.

There is a group of farm buildings and a house dating from the 1950's in the northwest section of Lot 10 (Davies 2003:36). Adjacent to the Caboolture River are the remnants of earlier settlement.

There are limited views from surrounding roads into the site. The Bruce Highway frontage is woodland with the western ridge restricting views beyond Nolan Road. Nolan Road generally runs below the western most ridge line restricting views into the main site. Properties between the river and Lawrence Street have views across the river flats into the site. The Caboolture/Beachmere Road has several places offering views through to the site. However, these are generally restricted by the riverbank vegetation. Properties fronting Buckley and Coach Roads have potential views into the site. In these cases, the residences are located well away from the common boundary. Vegetation in these rural residential properties masks views into the property, particularly the area in the southwest corner. The view line down Buckley Road is very restricted due to existing vegetation. Properties along Farry Road have views across the disturbed grasslands into the site with only sparse vegetation interrupting site lines.

The river offers views from boats although these views are restricted by height of the river banks, bank vegetation and are tide dependent.

5.0 VISUAL AMENITY

The Caboolture ShirePlan states several desired and environmental outcomes in terms of the character and visual amenity for the Shire. The desired environmental outcomes under the *Part 3.1 Desired environmental outcomes* of the Scheme include:

- no significant adverse effects on major natural features, including the D'Aguilar Range, the Glass House Mountains, land within and adjoining coastal management districts, Pumicestone Passage, Deception Bay and waterways draining to those features, in terms of ... scenic amenity or their use as open space links;
- Rural lands are conserved as a fundamental and valuable element of the Shire's identity and character and are protected from incompatible non-rural land uses;
- Land to the north of the Caboolture and Elimbah urban and rural residential area maintains a rural or forested character as part of the major urban break between the Brisbane and Sunshine Coast metropolitan regions, and the urban areas of Caboolture-Morayfield, Burpengary-Narangba, Deception Bay and Ningi-Sandstone Point are separated from each other by rural residential, rural, open space or nature conservation areas as part of a series of interconnected intra-urban breaks.

It should be noted that all of Lot 2 and a significant portion of Lot 10 are now designated District Industry under the ShirePlan. It is not the purpose of this report to comment on the viability or quality of remaining land. However, from a scenic amenity perspective, it is important to determine the likely impact of the proposed development on these desired environmental outcomes and any impacts that may involve major natural features, the coastal land, and the intra-urban breaks.

The Caboolture ShirePlan outlines requirements for addressing issues of Scenic Amenity through the use of Central Planning Area Overlay Map C011 Scenic Amenity, the Scenic Amenity Overlay Code and Planning Policy 18 Scenic Amenity.

The overall outcome for the Scenic Amenity Overlay Code is stated in 6.44 (b) (i):

Development in scenic amenity areas is sited and designed to minimise the adverse impacts on the scenic qualities of the area.

Table 6.11 Scenic Amenity Overlay Code (Part 6 Division 12)	
Column 1 Specific Outcomes	Column 2 Probable Solutions
Scenic Amenity Values	
SO1 Development: (a) for hillsides or ridgelines is designed and located: (i) to retain important skyline elements, including tree canopies for vegetated ridgelines; and	S1.1 The maximum amount of evident use does not exceed the level outlined in table 6.11. <i>Note: The procedure to calculate the extent of evident use is outlined in Planning Scheme Policy 18 Scenic Amenity using the Scenic Amenity and Scenic Preference Maps set out in Schedule 7.</i>

<ul style="list-style-type: none"> (ii) to retain and enhance significant views into and out of the area. (b) for waterways is designed and located: <ul style="list-style-type: none"> (i) in a manner which is subservient to the landscape; (ii) to retain and enhance views along the waterway; and (iii) to conserve significant vegetation where possible. 	
<p style="text-align: center;">SO2</p> <p>Development is designed and constructed of materials and with finishes that complement the integrity of the landscape and do not dominate the natural scenic landscape.</p>	<p style="text-align: center;">S2.1</p> <p>Buildings or other structures have external surfaces finished with the following natural colours:</p> <ul style="list-style-type: none"> (a) dark blues, dark greens, dark greys, ochres, olives; or (b) natural or stained timbers.

The Central Planning Area Overlay Map CO11 Scenic Amenity indicates that all of Lot 2, and the majority of Lot 10 away from the river and river flats, have no scenic amenity value which corresponds to the current District Industry zoning (Figure 6b). The issue to address in relation to Lots 2 and 10 is the impact of building height from view sheds and corridors. (Refer to figure 10a).

Map CO11 indicates that Lots 7 and 24 have scenic amenity value.

The stated outcome for Scenic Amenity is achieved through the use of Planning Scheme Policy 18 Scenic Amenity, Division 12 Assessment Criteria for the Scenic Amenity Overlay, and the Scenic Amenity and Scenic Preference Maps in Schedule 7.

Elements such as the Glass House Mountains and publicly accessible portions of the Caboolture River rate extremely highly in the Scenic Amenity Map. While the subject land has a range of values for Scenic Amenity, none are at the two highest levels. The site also has a range of values for Scenic Preference. Allowable Maximum Evident Use under the code suggests a range of between 15-30% which indicates that visual evidence of development is permissible.

Lot 2 and a majority of Lot 10 are zoned District Industry. In relation to height, the Specific Outcome is identified as Building heights do not detract from the surrounding landscape. The probable solution given is Building height above ground level does not exceed 12.0 metres and three storeys.

Building heights in the Rural, Rural Residential and single residential areas conform generally to the probable solution building height in Residential A Zones (single residential houses) of 2 storeys or 8.5 metres.

While the Caboolture ShirePlan allows a variety of heights (15 metres, 21 metres, 27 metres and some areas with no height limits) in the Metropolitan Centre Zone, any proposal for increased height outside these zones require assessment of the impact on the Visual Amenity.

6.0 PROPOSED DEVELOPMENT

The NEBP proposes to develop a mixed use master planned community including residential precincts, a mixed industry business park, golf course, integrated marina complex including multi-residential development, commercial uses and recreational uses over 769 hectares on the south bank of the Caboolture River east of the Bruce Highway. The following components are incorporated into the NEBP development:

- Marina basin.
- Marine industry.
- Shipyard.
- Mixed Industry Business Areas.
- Marina Village.
- Marina Residential
- Hotel.
- Marina Pavilion.
- Golf Residential.
- Residential.
- Environmental open space.
- Golf club and golf course.
- Recreational areas and sporting fields.
- Heritage Park.
- Environmental Centre.
- Community Nodes.
- Educational and Training Facility.

The precincts described above are illustrated in the proposed Concept Plan by PMM, (Figure 7).

Of the 769 hectares, 55% (419 ha) will be set aside for open space, and active and passive recreational uses, including a heritage park. The remaining area, 45% (349 ha) will be developed, with this area including roads and individual lot open space, so that the actual visual perception of developed area will be considerably less. The project area is located on 9 kilometres of river frontage which will allow public access to parts of the Caboolture River.

6.1 Mixed Industry & Business Activities

The Concept Structure Plan indicates that the area currently zoned District Industry would become Mixed Industry Business Park (MIBA) with proposed building heights on Lot 2 of adjacent to the Highway and a section in the south west corner of Lot 10 adjacent to the Rural Residential area of 15 metres.

The balance of the MIBA would have a proposed building height of 25 metres.

6.2 Marine Village

The Marine Village would have a range of proposed building heights from 3 storeys for the residential units adjacent to the Marina Basin and Golf Course, 25 metres in the Shipyard and Marina Centre. The taller residential development fronting the marina currently proposes 20 apartment buildings with 3 of 6 storeys, 6 of 8 storeys, 5 of 10 storeys, 6 of 12 storeys (21 metres, 27 metres, 33 metres and 39 metres respectively) and a Hotel of 16 metres (PMM/ML Design Master Plan).

6.3 Residential

The single residential areas adjoining the Rural Residential properties along the southern boundary and fronting the Golf Course would be 2 storeys and 8.5 metres.

6.4 Open Space.

Open space is a significant component of the Concept Plan. Place Planning and Design proposes extensive revegetation of the site in a number of key areas. A 100 metre buffer to the Caboolture River edge would include the following components:

- existing mangroves along the river, 5 to 6 metres in height with a planted buffer of swamp oak behind with new planting 3-4 metres at 5 years, 8-10 metres at 10 years and 10-12 metres at 15 years up to the Marina lock entry and from the river edge next to the shipyard just past west of Riversleigh Road;
- mangroves and some larger existing trees to 10 metres along northern marina frontage. Planting intended as scattered semi-open parkland. New planting 4 to 5 metres in height at 5 years, 8-10 metres at 10 years and 10-12 metres at 15 years;
- existing mangroves along the river, 5 to 6 metres in height, River Oak and gums behind and in planted buffer, with new planting 4-5 metres at 5 years, 8-10 metres at 10 years and 10-12 metres at 15 years to the existing riverine forest;
- existing heritage park with existing pines to 20 metres height supplemented and merged with buffer plantings with new planting 5 metres in height at 5 years, 10-12 metres at 10 years and 15-20 metres at 15 years;
- existing riverine forest from the Heritage Park to the western property boundary expanded with buffer. Existing mature trees 10-15 metre height, new planting 5 metres at 5 years, 10-12 metres at 10 years and 15 metres at 15 years.

The existing swamp oak and gum forest (just north of the proposed shipyard) with trees from 8 to 10 metres in height would be infilled and edges revegetated.

The western boundary of Lot 10 would be a planted forest buffer of 80-100 metres wide with planting 5 metres at 5 years, 10-12 metres at 10 years and 15 metres at 15 years.

The existing creek vegetation in the southern portion of Lot 10 would be expanded with new planting 5 metres high at 5 years, 10-12 metres at 10 years and 15 metres at 15 years.

The existing paperbark forest with trees between 12-14 metres would remain.

The Golf Course would have bands of trees 10-15 metres high at maturity. The new planting would be 5 metres at 5 years, 10-12 metres at 10 years and 15 metres at 15 years.

The Concept Structure Plan indicates a linking of open space and responding to the existing landscape character. These concepts will ensure that the development reads as buildings in a landscaped setting rather than a development dominated by buildings.

There will be 55% of the site devoted to major landscaped space including both passive and active recreation areas. Actual site development is significantly less given the intent to create landscaped roads and the individual lot requirements for landscaping and open space. This represents a very limited development footprint allowing the landscaping elements to make a significant contribution to the scenic amenity.

The proposed Master Plan has been based on creating vistas, open space linkages, protecting and enhancing key landscape elements. The existing screening capacity of the vegetation, particularly along the Caboolture River will be supplemented by significant additional planting. This concept will be extended along the north western site boundary and in other areas to provide a vegetated edge filter to the site.

The proposed plantings are long-lived, provide effective screening over time and are capable of natural regeneration under local soil and climatic conditions (Information provided by Place Planning & Design).

7.0 VISIBILITY

7.1 Method

The viewshed and zone of influence of the proposed development has been assessed a number of ways:

- (a) The likely visibility of proposed buildings has been assessed through the use of site cross-sections incorporating both existing and proposed vegetation. The cross sections include proposed building heights and screening capacity of the vegetation to show the likely visibility of the proposed buildings.
- (b) Review of the existing landform of the site and surrounding area in order to define the viewshed of the proposed structures above 15 metres.

- (c) Verification of heights using a cherry picker crane with buckets at the 25 metres and 36 metres above natural ground level photographed from several locations shown in Figure 10b, 29th August 2007.
- (d) Montage of the v2i 3-dimensional imagery in the visually most prominent locations to view likely visual impact of the proposed building height.

It should be noted that the existing ShirePlan zoning for Lot 2, allows for building heights of 3 storeys or 12 metres. Thus, the ShirePlan supports a significant change to the existing visual amenity along the Bruce Highway at this location. This is also the case for Nolan Drive, which will become a more urban road under the current ShirePlan. Additional building height, for the same plot ratio, will result in a reduced building footprint and an increased ability for the landscape component to make a positive contribution to the landscape character.

The discussion of Lot 2 will be restricted to the impact of an additional storey and 3 metres to the building height (while a significant portion of Lot 10 is similarly zoned, the proposed developments heights are higher than envisaged in the ShirePlan).

7.2 Sections and screening capacity

Scale diagrammatic cross-sections have been prepared through the site (Figures 8 and 9). Site lines from external viewpoints have been superimposing to show screening. Sections illustrated are:

- Bruce Highway MIBA Entry.
- River flat low lying terrain.
- Marina Village Residential Precincts and Rural Residential/Residential East interfaces.

The impact of an additional storey or 4 metres above the existing zoning along Bruce Highway is minimal. The area to the west of the Highway opposite Lot 2 is zoned Residential A and has little elevation to allow views across the Highway. However, any residential development along this edge will have to address acoustic issues associated with residential development adjoining major traffic routes. Generally, developments will be turned inward and screened by a significant sound barrier to achieve acceptable acoustical levels as is happening along the Bruce Highway closer to Brisbane.

Impact of the additional storey from traffic travelling at 100kmh along the Highway between Coach and Buchanan Roads is also minimal as this distance will take 54 seconds to traverse. However, development here will create a visual marker signifying the town of Caboolture, which the Highway currently lacks.

The proposed East, West and South Residential precincts will be low scale and in keeping with a Residential A Zone of 2 storeys. These precincts are generally adjacent to existing rural residential land. Buildings on the rural residential lots are generally located closer to the street, well away from rear boundaries shared with the proposed development, allowing visual separation by distance. This transition is

not uncommon in the Shire (for example, Bristlebird and Summerhill Drives, or likely development on Buchanan Road). The terrain adjacent to the East, West and South Residential Precincts is generally flat, so that it is not possible to look down and over the proposed Residential precincts, which further lessens the impact of the new development.

7.3 View shed Analysis

The view shed analysis is focused on the taller structures in the MIBA and Marine Village Precincts where there is potential for external observers to see buildings which differ significantly from rural or rural residential low density housing.

The theoretical view shed extent is indicated in Figures 10a & b. There are no significant topographical features within a 3 km radius which either block views or allow for looking down on the subject land. This is due to the relatively flat terrain associated with the coastal plain.

Buildings may be visible in the distance beyond this radius, but the visual impact is likely to be minimal if surfaces have no, or low reflectivity.

Views from the Glass House Mountains were also reviewed and considered unimportant because of the extended distance from lookouts in this area to the site (in excess of 16km) and the distance from the site to Deception Bay will ensure that the buildings are viewed against a terrestrial backdrop (rather than the contrast provided by an aquatic background). In this context, the buildings will be indistinguishable providing the materials have no or low reflectivity.

While screening by vegetation, existing buildings and other obstructions have not been taken into account, this will reduce the actual view sheds. This was confirmed when assessing the Cherry Picker simulation from public roads and areas outside the site.

7.4 Cherry Picker simulation.

A truck mounted “cherry picker” was used on site on 29th August 2007 in two locations. One location was in the MIBA precinct with the basket extended to 25 metres. The other was in the Marine Village precinct where the bucket was extended to 36 metres (maximum extension possible).

7.4.1 MIBA

The cherry picker simulation reinforced the cross-sectional analysis by showing that the existing and proposed fringe vegetation will effectively mask the 25 metre structures. This applies to viewsheds from Trafalgar Drive, the Trafalgar Drive and Buchanan Road roundabout, and even on the more elevated ground along Buchanan Drive near Coach Road (Figures 11, 12, 13, and 14). The cherry picker bucket is discernible in the distance above existing planting from the Weier Road and Captain Wish Avenue intersection (Figure 15). However, the impact on the visual amenity is not considered significant because of the distance and effect of the proposed additional fringe planting which will increase vegetation masking.

It was not possible to discern the bucket from the King St/Bribie Island and Uhlmann road bridges across the Bruce Highway (Figures 16 and 17). Views from the Highway will effectively be masked by the proposed fringe planting as discussed above for Trafalgar Drive. Views of possible 25 metre tall structures from the Bruce Highway will be masked by foreground development on Lot 2 and landscaping (Figure 18).

It was not possible to confirm the impact of the building height form north of the Caboolture River as the properties are privately held (properties looking across the river from Last Post and Ann Maree Drives, Lawrence Street). However, given the generally flat terrain, the existing and proposed fringe planting to the river will effectively screen the internal development from these locations as indicated in the site sections.

7.4.2 Marine Village

A series of taller buildings are proposed for the Marine Village Precinct (from approximately 21 metres to 39 metres). The impact of this height was then verified from a number of viewing points; Saint Smith Road boat ramp, the Timothy Esplanade jetty, the Caboolture Beachmere Road, the Harry Ware Park on Riversleigh Road, Buckley, Farry Road, and the Uhlmann Road Boat Ramp.

The effective screening capacity of the river fringe vegetation can be seen from the Harry Ware Park and Monty's Marina where it is not possible to view the proposed development at all (Figures 19 and 21).

It was possible to view the upper section of the arm and bucket in the distance in two locations along Beachmere Road. The first location is just west of Monty's Marina, and the second, just east. Viewed from the western location, part of the arm and bucket sit above the distant tree line but not those in the foreground (Figure 20). From the eastern location, the bucket is visible but it is below the ranges behind and not visually significant (Figure 22). While buildings will be visible from these locations, the impact is considered minimal.

It was not possible to discern the bucket from the Saint Smith Road boat ramp (Figure 23). The bucket could be seen from the end of the Timothy Esplanade Jetty just above the vegetation across the river. However, the bucket is well below the line of the ranges and is not considered visually significant due to the distance (Figures 24 and 25). Structures could merge with the background with the selection of suitably compatible materials and colours.

The bucket is not visible from the Uhlmann Road boat ramp (Figure 26).

While the arm and bucket are visible from the end of Buckley Road and points along Farry Road, proposed vegetation buffering, foreground development and golf course vegetation will significantly mask these views so that the impact is considered minimal (Figures 27, 28 and 29)..

The higher Marine Village buildings are not visible from other locations to the west such as Weier Road and Forges Crescent (Figure 30).

7.5 Computer Imaging

Computer imaging of likely forms has been carried out and a 3 dimensional fly-through produced to convey the likely character of the proposed development. Montages from the two locations most likely affected in visual amenity terms were modelled by v2i (Figures 31 & 32). This indicates that while there is a change to the views, it is not considered to have significant impact.

7.6 Visibility Summary

While Lot 2 will alter significantly from the current vegetated state, this change has been considered as acceptable in the ShirePlan due to current zoning for the site. An increase in building height from 12 to 15 metres is considered as having minimal impact in the context of the change from a vegetated to an urban use and view sheds will largely be unaffected.

The proposal to have structures on Lot 10 taller than the ShirePlan currently envisages as an acceptable solution is also considered to have minor impact due to the screening capacity of proposed lower scale buildings adjacent to the highway, and existing and proposed vegetation screening to the development.

Placing the tallest structures towards the middle of the site ensures that the higher development has a transition zone of either lower buildings (in the case of Lot 2) or vegetation, or in some cases a combination of the two. While the taller buildings on Lot 10 are potentially visible from the Bruce Highway, a limited number of locations to the west of the highway, and from properties northwest of the Caboolture River, existing vegetation and proposed landscaping works will effectively screen these structures. The expansion of the river buffer vegetation will further restrict views into the site and create good visual separation from the river and properties to the north.

There will be some change in the existing visual amenity viewed from external viewpoints to the north and east with the taller residential structures (those above 8 storeys) proposed on Lot 24. This includes the Timothy Esplanade jetty, sections of the Caboolture Beachmere Road and Farry Road. These impacts are also considered minor due to the distance involved and the ability of vegetation (existing and proposed) to screen a majority of the structure.

The main potential visual amenity changes due to the proposed developments of Lots 7 and 24 from external viewpoints will be from the rural and rural residential area adjacent to Farry Road in the southeast corner. However, buffering by vegetation and boundary fencing, the proposed single residential precinct and the buffering afforded by the vegetation associated with the golf course will effectively mask the taller Marine Village structures. In this context, the change is also considered minor.

8.0 VISUAL IMPACTS

8.1 Master Plan

The proposed developments on Lot 2 and Lot 10 are already foreshadowed under the ShirePlan. The main area of vegetation clearing will occur on Lot 2. Lot 2 and Lot 10 outside the river plain have no Visual Amenity value under the ShirePlan. Increases in building heights, particularly on Lot 10, will have little impact on the visual amenity due to the generally flat terrain, existing and proposed vegetation to buffer the edge conditions.

While the Marina Basin represents a significant excavation, on completion this will be visually unobtrusive due to the low elevation and screening capacity of existing and proposed vegetation. Visual impacts associated with soil dumps could be mitigated by either locating them away from adjoining visually sensitive boundaries, or using vegetation (existing or new) to screen the areas. Fast-growing species could be used for new screen vegetation along with temporary or permanent screen fences to provide immediate visual screening during plant establishment.

The component of the Master Plan which has the most potential to impact visual amenity from surrounding areas is the Marine Village on Lot 24. While development on Lot 7 and Lot 24 was not contemplated under the ShirePlan, the Master Plan adopts an edge buffering approach (in some cases combined with low scale single residential buildings) to ensure that taller buildings in the Marine Village are shielded from viewsheds and the overall dominance of vegetation is maintained. From the north and east, the view is across water or paddocks to a vegetated fringe which effectively hides all development below 7 to 8 storeys.

The only exception to this scenario is when viewing the subject site from the southeast corner along Farry Road. The Master Plan transitions development from the adjoining rural and rural residential adjoining properties to the more intense Marine Village by using single residential and the golf course to mask views.

8.2 Community Expectations

The ShirePlan intentions for Lots 2 and 10 indicate a significant change from the current state. Visual amenity is therefore not a significant issue apart from the impact of any increase in building height. Existing and proposed edge vegetation, and foreground buildings will effectively mask any change to building height on Lot 10 so that external viewers are unlikely to be affected.

While development on Lots 7 and 24 was not originally envisaged under the Shire Plan, fringe vegetation (both existing and proposed) effectively masks internal development from the east and north so that only the tallest structures (above 8 stories) will be visible above the canopy line. The ShirePlan's Visual Amenity code does not preclude changing visual amenity in the area.

In these cases, buildings will not dominate the visual amenity which is considered compatible with the adjoining rural/rural residential zoning. The master plan makes a

significant contribution to visual amenity by ensuring that 55% of the subject land consists of large contiguous, interrelated areas of open space. Development is restricted to well under 45% of the site when allowance is made for roads and individual development site landscape/open space requirements. The master plan planning intent is to create a balance between development footprint, open space and building height. Visual separation is provided by distance. The NEBP will be controlled and assured by the proposed community title arrangements, ensuring that the quality of the built form and landscape, including on-going maintenance, will achieve the high standards expected of a quality development.

Views from important higher level positions such as the Glass House Mountains will be unaffected due to the separating distance and distance of the subject land to the coast.

8.3 Visibility

There are very few positions outside the subject land where it is possible to achieve any significant ground elevation to be able to look down on the site. These viewing points are either masked by vegetation (existing or proposed) or sufficient distance to be not of concern.

Edges are generally transitioned from the adjoining rural/rural residential by vegetation or a combination of vegetation and lower scaled buildings to mask taller structures. Taller structures on Lot 10 will generally be masked by vegetation. A portion of the taller structures will appear above canopy lines in the Marine Village on Lot 24. However, the proposed mix of building heights ensures that the taller structures will not dominate views and the landscape remains the significant character of the area.

The proposed development will not intrude upon any vistas or view corridors across the site or to the Glass House Mountains.

8.4 Compatibility

The single residential precincts are considered to be compatible with the surrounding character and amenity. This is due to:

- the location of the rural residential buildings closer to the street boundary ensuring sufficient buffering between the two elements;
- the generally flat terrain, both internally and surrounding the site which ensures that there is very little possibility of overlooking into or outside the site;
- single residential precincts acting as transitioning elements.

Taller structures up to 25 metre height in the MIBA precinct can be effectively screened by existing and proposed fringe vegetation. While new planting will take time to develop, given the total time frame of the project and the on-going management of the site, this is not seen as a major issue.

Internalizing the taller elements in the Marine Village, and providing a mix of building heights, some of which will not be visible above vegetation, will ensure that buildings will not dominate vistas. Choosing compatible materials and colour schemes would ensure that the buildings compliment and blend with the landscape.

8.5 Lighting

The proposed development has potential to impact upon adjoining properties in a number of ways. This can be by way of light spill from fixed lighting on the site; potential glare and intrusion of fixed lighting and glare from headlights associated with vehicles accessing the site. From site inspections, there is minimal street lighting on surrounding roadways in the area.

Fixed lighting will be required in on site car parking areas, service areas, the marina, as well as building lighting, security lighting and illuminated signage.

No detailed lighting design is available at this stage of the design. However, it is assumed that the site lighting would include:

- Pole mounted ground level car park flood lighting;
- Low-Level bollard lighting to car parks, Marine Village and Marina;
- Security fluorescent lighting to building perimeters with appropriate glare shields where required by location.

The Master Plan effectively buffers the surrounding areas from light spill by vegetation and or single residential precincts (apart from Lots 2 adjacent to the Highway). The MIBA and Marine Village precincts are generally well separated from existing rural and rural residential areas allowing the landscaping to provide light barriers. The appropriate design standard is AS4282-1997 "Control of Obtrusive Effects of Outdoor Lighting." The following guidance is provided to minimise light spill from the site:

- Landscaping and site fencing to assist in the containment of lighting within the site.
- Use low-level bollard lighting to car parking areas, marina, and other areas where possible.
- Lighting to be transitioned from existing roadways/residential areas.
- Use low-glare external advertising signage where there a possibility of impact into adjoining areas.

9.0 Conclusion

The proposed Master Plan for the Northeast Business Park comprises four separate precincts generally integrated with the existing landform and vegetation constraints. The Master Plan also indicates an intent to strengthen the vegetation component, in particular the ability of fringe vegetation to mask internal development including building height.

Overall the development will be dominated by open space, representing 55% of the site. The ShirePlan envisages significant change to the proposed MIBA precinct on Lots 2 and 10 while protecting the riverine terrain. The Highway frontage between Coach and Buchanan Roads will become much more urban in character, acting as a visual marker to signify the Town of Caboolture when travelling along the Highway. The slight height increase proposed on Lot 2 is not considered significant in terms of visual amenity with vistas unaffected.

The height increase to the balance area of the MIBA precinct is also not considered significant because of the screening capability of Lot 2 and the existing and proposed screening vegetation along the western boundary and the Caboolture River.

Development in the Marine Village is placed towards the middle of the site to allow for significant buffering of taller structures from the surrounding rural and rural residential area. While development of any height was not envisaged in the ShirePlan, the impact of building height on the area is not considered significant due to the existing and proposed edge vegetation buffering which will mean that the taller structures will be generally seen protruding above vegetation with the ranges in the background. While the development is intense in localised areas, this is not apparent when viewed from points outside the site.

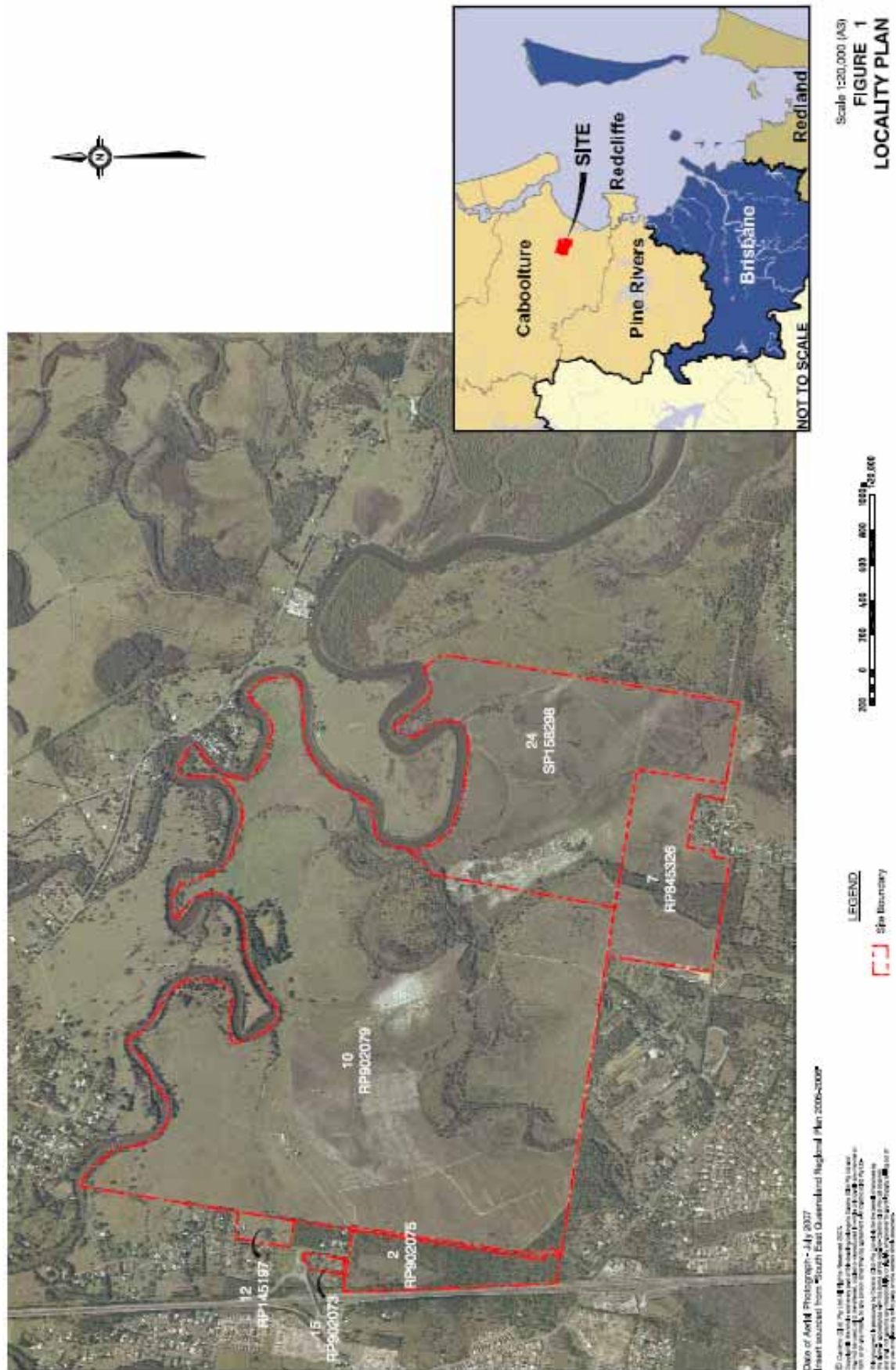


Figure 1: Location Map.
Source Image: Cardno Pty Ltd.



Figure 2: Aerial View from west looking towards Deception Bay – Bruce Highway in foreground.
Source Image: Tom Anthony Imaging 28.7.07



Figure 3: Aerial view from mouth of Caboolture River looking west.
Source Image: Tom Anthony Imaging 28.7.07



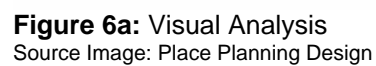
Figure 4: Aerial View from north east looking at proposed Marine Village Precinct. Note existing river edge vegetation.

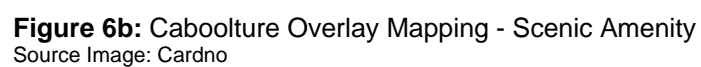
Source Image: Tom Anthony Imaging 28.7.07



Figure 5: Aerial View from the southeast. Note the generally flat terrain with Glass House Mountains in distance.

Source Image: Tom Anthony Imaging 28.7.07





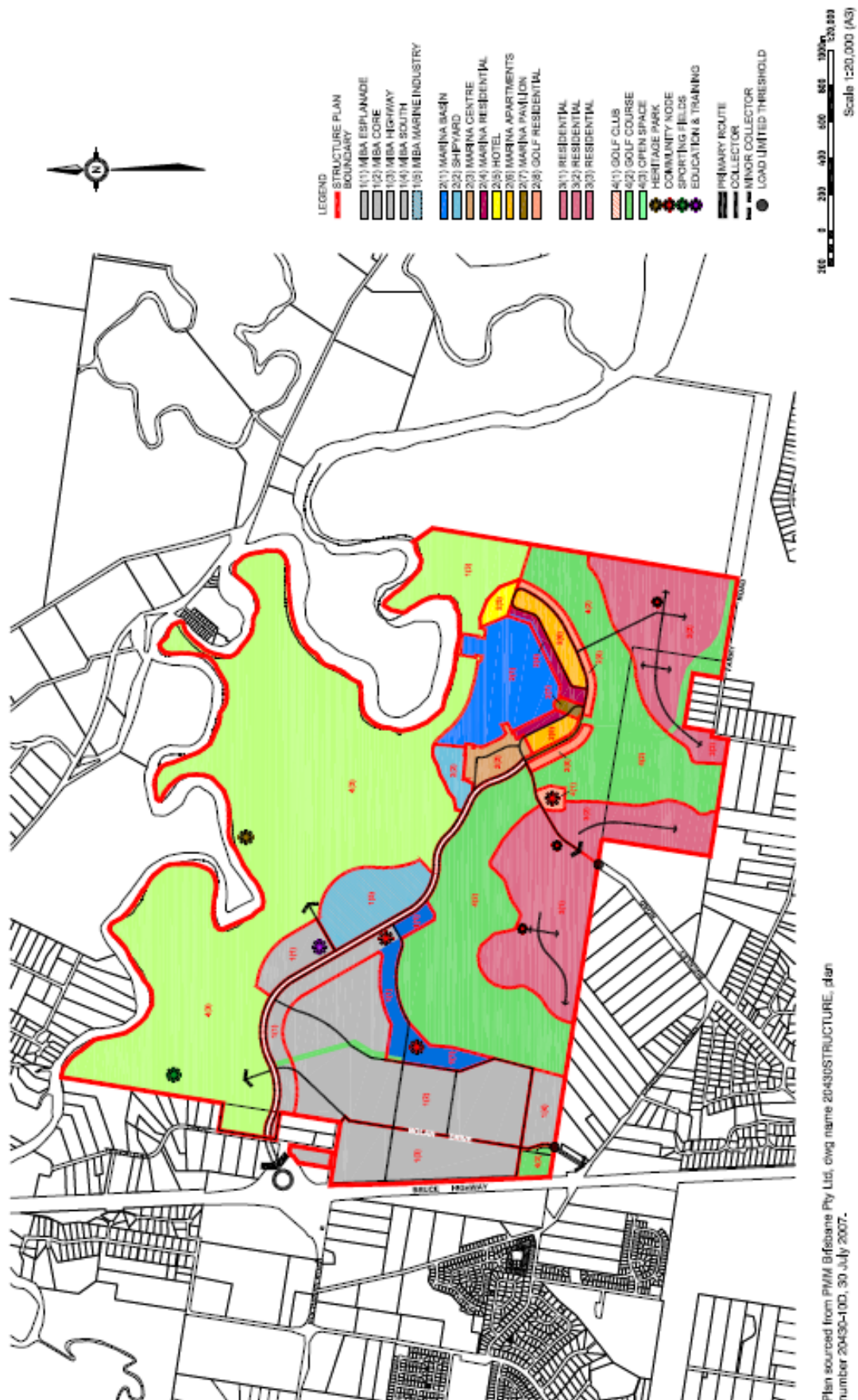


Figure 7: Concept Structure Plan
Source Image: PMM/ML Design.

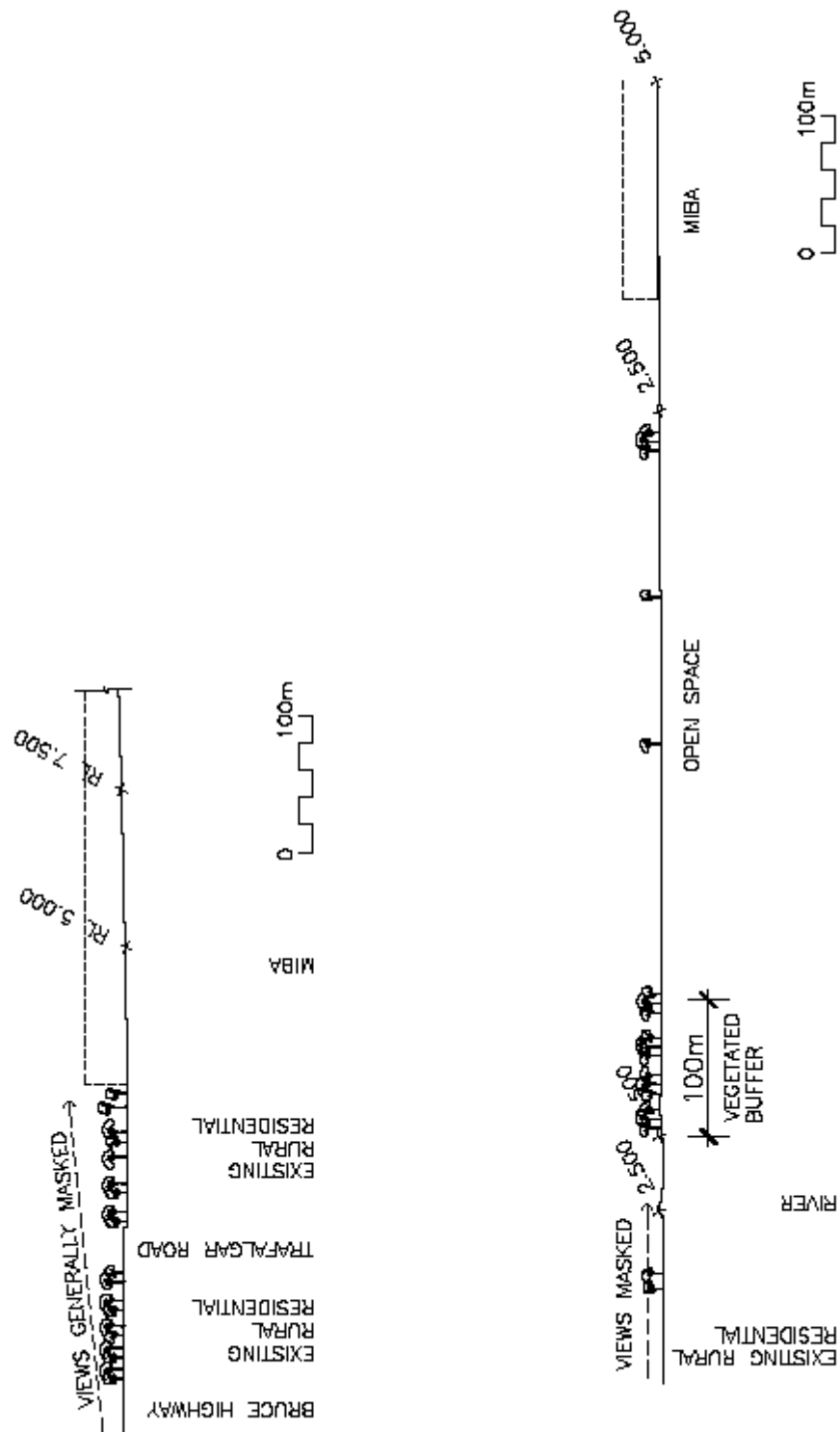
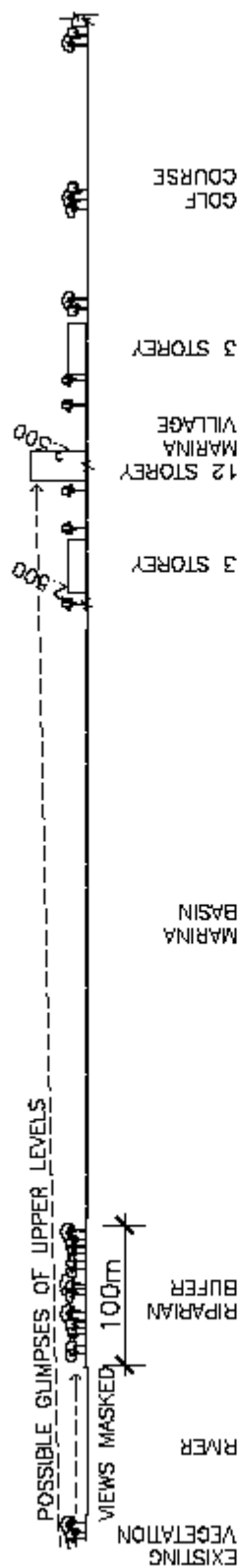
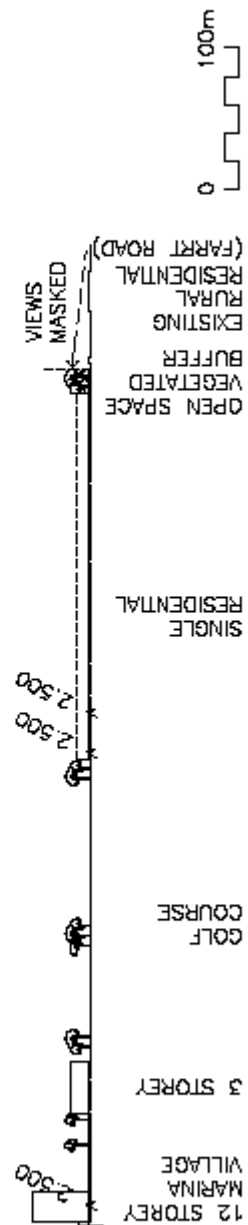


Figure 8: Diagrammatic Sections
 Source Image: Studio Tekton



SECTION C

Figure 9: Diagrammatic Sections
Source Image: Studio Tekton

**SECTION C CONTINUED.**

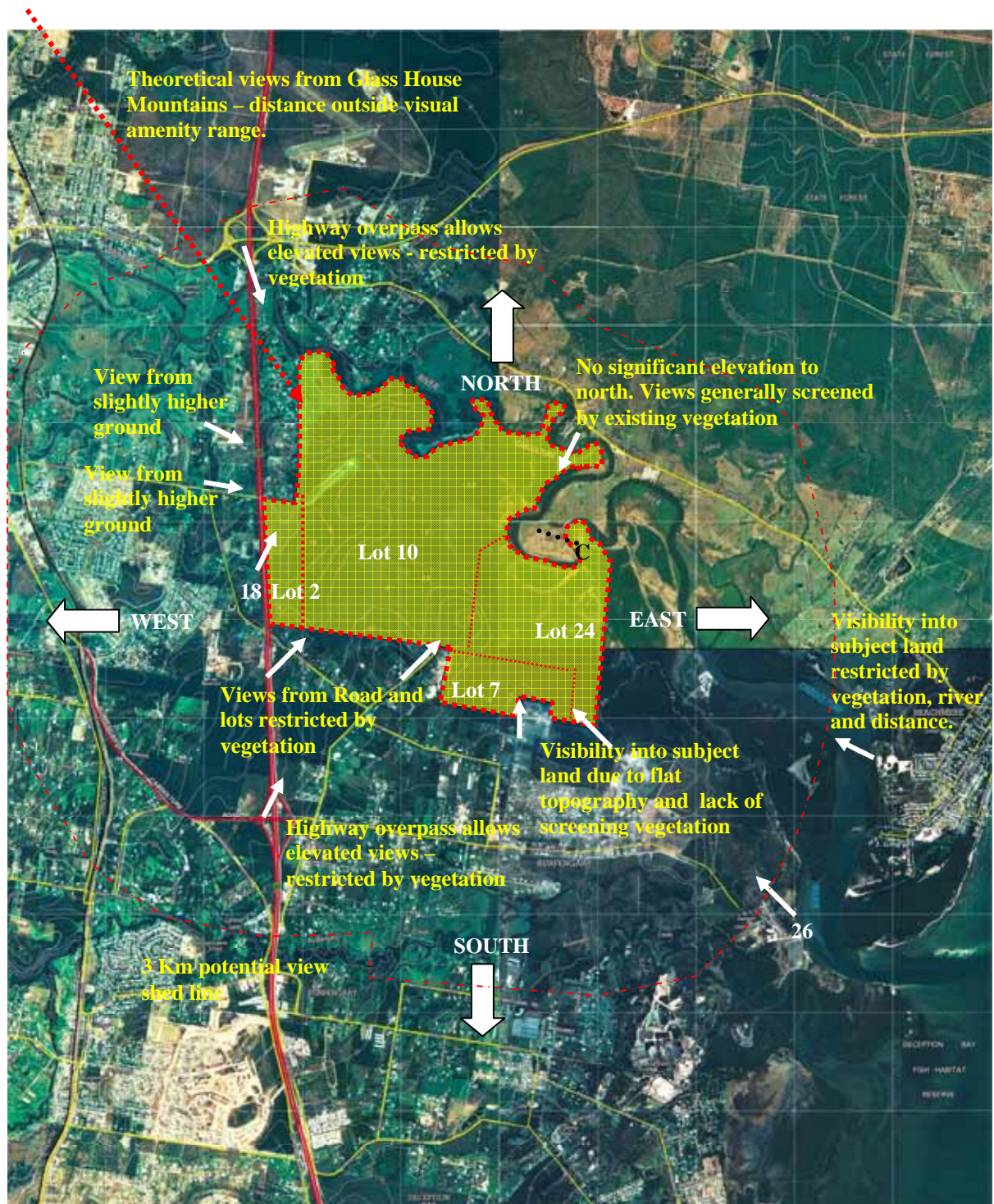


Figure 10a: View Shed Analysis.

Source Image: Sunmap Topographic Image Map
 9443-11 Caboolture, 1992; 9443-11 Narangba, 1992;
 9543-43 Redcliffe, 1994; 9543-44 Toorbul, 1994.

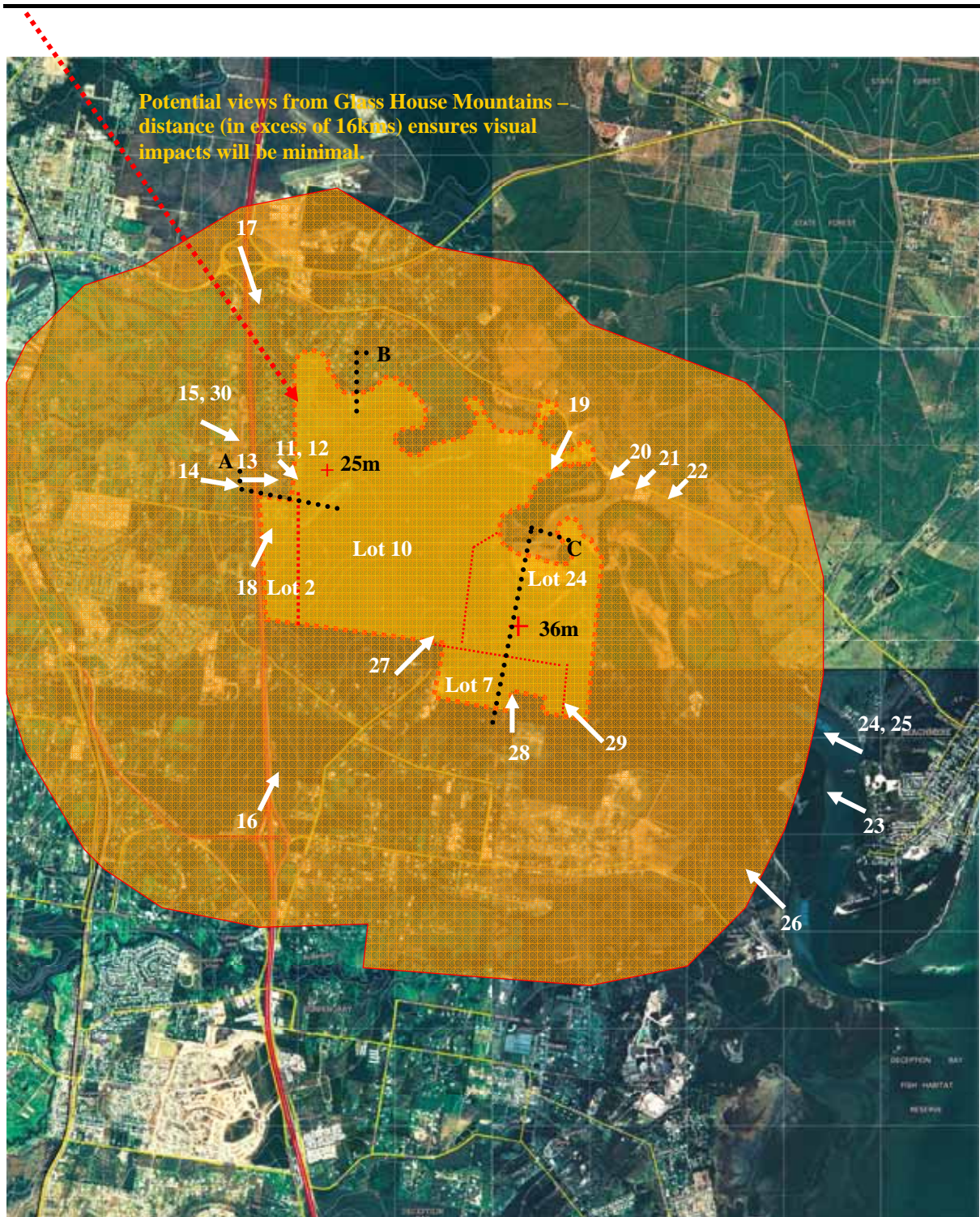


Figure 10b: View Shed Analysis.
Theoretical views of development to 3 km depending on vegetation and other structures.

Cherry Picker Location for 25 metre and 36 metre buildings.

Photo points/Figure Reference for viewing impact of building height from locations in view shed.





Figure 11: Cherry Picker Simulation – MIBA Precinct with base of bucket set at 25 metre above ground level. Note existing planting to western boundary masks building and height.



Figure 12: Cherry Picker Simulation – MIBA Precinct with base of bucket set at 25 metre above ground level. Note existing sparse planting to western boundary masks building and height.



Figure 13: Cherry Picker Simulation – MIBA Precinct with base of bucket set at 25 metre above ground level at Buchanan/Trafalgar round-about. Note existing planting completely screens building height.



Figure 14: Cherry Picker Simulation – MIBA Precinct with base of bucket set at 25 metre above ground level viewed from Buchanan Road near Coach Road. Existing planting screens majority of height. Street planting will mask MIBA.



Figure 15: Cherry Picker Simulation – MIBA Precinct with base of bucket set at 25 metre above ground level from Weier Road and Forbes Crescent. Majority of 25 metre height hidden by vegetation.



Figure 16: Cherry Picker Simulation – MIBA Precinct with base of bucket set at 25 metre above ground level not visible from elevated Uhlmann Road bridge over Bruce Highway even though within potential viewshed.



Figure 17: Cherry Picker Simulation – MIBA Precinct with base of bucket set at 25 metre above ground level viewed from King St/Bribie Island Road elevated Bridge across Bruce Highway. Note existing planting to north western boundary masks building and height even though the location is well within the potential viewshed.



Figure 18: Cherry Picker Simulation – MIBA Precinct with base of bucket set at 25 metre above ground from Bruce Highway



Figure 19: Cherry Picker Simulation – Marine Village with top of bucket set at 36 metre above ground level. River planting prevents views across into subject land.



Figure 20: Cherry Picker Simulation – Marine Village with top of bucket set at 36 metre above ground level viewed from Caboolture Beachmere Road looking south east. Only upper portion is visible over vegetation.



Figure 21: Cherry Picker Simulation – Marine Village with top of bucket set at 36 metre above ground level viewed from Monty's Marina. View demonstrates effectiveness of riverine edge planting at restricted views into subject land and masking buildings.



Figure 22 Cherry Picker Simulation – Marine Village with top of bucket set at 36 metre above ground level. Proposed building height just visible above vegetation but below ranges in background.



Figure 23: Cherry Picker Simulation – Marine Village with top of bucket set at 36 metre above ground level viewed from Beachmere Boat Ramp. Bucket is not visible.



Figure 24: Cherry Picker Simulation – Marine Village with base of bucket set at 36 metre above ground level viewed from Timothy Esplanade jetty. Bucket is just visible above vegetation but below ranges in background.



Figure 25: Cherry Picker Simulation – Magnified view of Figure 24.



Figure 26: Cherry Picker Simulation – Marine Village with base of bucket set at 36 metre above ground level viewed from Uhlmann Road Boat Ramp. Bucket is not visible.



Figure 27: Cherry Picker Simulation – Marine Village with base of bucket set at 36 metre above ground level viewed from end of Buckley Road.



Figure 28: Cherry Picker Simulation – Marine Village with base of bucket set at 36 metre above ground level viewed from Farry Road. Note potential screening capacity of vegetation at end of road.



Figure 29: Cherry Picker Simulation – Marine Village with base of bucket set at 36 metre above ground level viewed eastern end of Farry Road. While this is the most exposed viewing point, note the potential masking capacity of a boundary fence and planting.



Figure 30: Cherry Picker Simulation – Marine Village with top of bucket set at 36 metre above ground level viewed from Weier Road and Forges Crescent. Proposed building height is not discernable.



Figure 31: Montage showing likely change to visual amenity viewed from same location as Figure 20. Materials and finishes selected to complement the natural scenic landscape would further reduce impact.



Figure 32: Montage showing likely change to visual amenity viewed from same location as Figure 22. Materials and finishes selected to complement the natural scenic landscape would further reduce impact.

NORTHEAST BUSINESS PARK

Terms of Reference Relevant Section	Element/issue	Scenic Quality and Visual Impact Report Relevant Section
4.2.1.7 Landscape character	This section should describe in general terms the existing character of the landscape that will be affected by the proposal. It should comment on any changes that have already been made to the natural landscape since European settlement. It should 'set the scene' for the description of particular scenic values in the following section on visual amenity. The difference being that this section describes the general impression of the landscape that would be obtained while travelling through and around it, while the visual amenity section addresses particular panoramas and views (e.g. from constructed lookouts, designated scenic routes, etc.) that have amenity value.	4.0 Landscape Character
4.2.1.8 Visual amenity	This section should describe existing landscape features, panoramas, views that have, or could be expected to have, value to the community whether local, regional, State-wide, national or international significance. Information in the form of maps sections, elevations and photographs is to be used, particularly where addressing the following issues:	5.0 Visual Amenity
	<ul style="list-style-type: none"> Identification of elements within the proposal and surrounding area that contribute to their image of the town/city as discussed in the local government planning scheme; 	5.0 Visual Amenity
	<ul style="list-style-type: none"> Major views, view sheds, existing viewing outlooks, ridgelines and other features contributing to the amenity of the area, including assessment from private residences in the affected area; 	5.0 Visual Amenity, Figure 10: View Shed Analysis.
	<ul style="list-style-type: none"> Focal points, landmarks (built form or topography), gateways associated with project site and immediate surrounding areas, waterways, and other features contributing to the visual quality of the area and the project site; 	5.0 Visual Amenity
	<ul style="list-style-type: none"> Character of the local and surrounding areas including character of built form (scale, form, materials and colours), and vegetation (natural and cultural vegetation) directional signage and land use; 	5.0 Visual Amenity
	<ul style="list-style-type: none"> Identification of the areas of the proposal that have the capacity to absorb land use changes without detriment to the existing visual quality and landscape character; and; 	5.0 Visual Amenity
	<ul style="list-style-type: none"> the value of existing vegetation as a visual screen. 	5.0 Visual Amenity
4.2.2.4 Landscape character	Describe the potential impacts of the project on the landscape character of the site and the surrounding area. Particular mention should be made of any changes to the broad-scale topography and vegetation character of the areas, such as due to spoil dumps, excavated voids and broad-scale clearing. Details should be provided of measures to be undertaken to mitigate or avoid the identified impacts.	8.0 Visual Impacts
4.2.2.5 Visual amenity	This section should analyse and discuss the visual impact of the proposal on particular panoramas and outlooks. It should be written in terms of the extent and significance of the changed skyline as viewed from places of residence, work, and recreation, from road,	7.0 Visibility, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6; 8.0 Visual Impacts, 8.1, 8.2, 8.3, 8.4.

Terms of Reference Relevant Section	Element/issue	Scenic Quality and Visual Impact Report Relevant Section
	<p>cycle and walkways, from the air and other known vantage points day and night, during all stages of the project as it relates to the surrounding landscape. The assessment is to address the visual impacts of the project structures and their surroundings from visually sensitive locations. Special consideration is to be given to public roads, public thoroughfares, and places of residence or work, which are within the line-of-site of the project.</p> <p>Detail should be provided of all management options to be implemented and how these will mitigate or avoid the identified impacts.</p>	
4.2.2.6 Lighting	<p>Management of the lighting of the project, during all stages, is to be provided, with particular reference to objectives to be achieved and management methods to be implemented to mitigate or avoid:</p>	8.5 Visual Impacts
	<ul style="list-style-type: none"> the visual impact at night; 	8.5 Visual Impacts
	<ul style="list-style-type: none"> night operations/maintenance and effects of lighting on fauna and residents; 	8.5 Visual Impacts
	<ul style="list-style-type: none"> the potential impact of increased vehicular traffic; and 	8.5 Visual Impacts
	<ul style="list-style-type: none"> changed habitat conditions for nocturnal fauna and associated impacts. 	8.5 Visual Impacts