

COBAKI LAKES

VISUAL IMPACT ASSESSMENT

PREPARED FOR:

LEDA

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1.0 Introduction

1.1 Purpose

Leda Manorstead Pty Ltd has commissioned AE Design Partnership to prepare a visual impact assessment on the property identified as the Cobaki Estate (**the site**) to assess proposed modifications relating to the consolidation of the town centre in precinct 5 and increases in height within Precinct 5, 15 and 17 approved under Concept Plan Approval MP 06_03116 and subsequent modifications.

The subject site is located at Cobaki Estate, 73 Sandy Lane Cobaki Lakes and has a total area of approximately 600 hectares. The site is approximately 5.5 kilometres from Tweed Heads and Coolangatta Town centre to the east and 1.2 kilometres from Gold Coast Airport to the east.

1.2 Objective

The objective of this assessment is to assess the SEARs Key Issue 5 pertaining to Visual Impacts for Concept Plan:

Provide a visual impact assessment and view analysis of the proposal from key view points and visual catchments, including a comparative analysis of the visual impacts of the approved Concept Plan against the proposed modification.

Views are analysed based on the 3D terrain mapping of the site and the development and is further assessed in terms of the built form's sensitivity and magnitude.

A comparative analysis of the proposed modifications is done against the View Analysis under Concept Plan MP06_0316 prepared by Design Forum Architects.

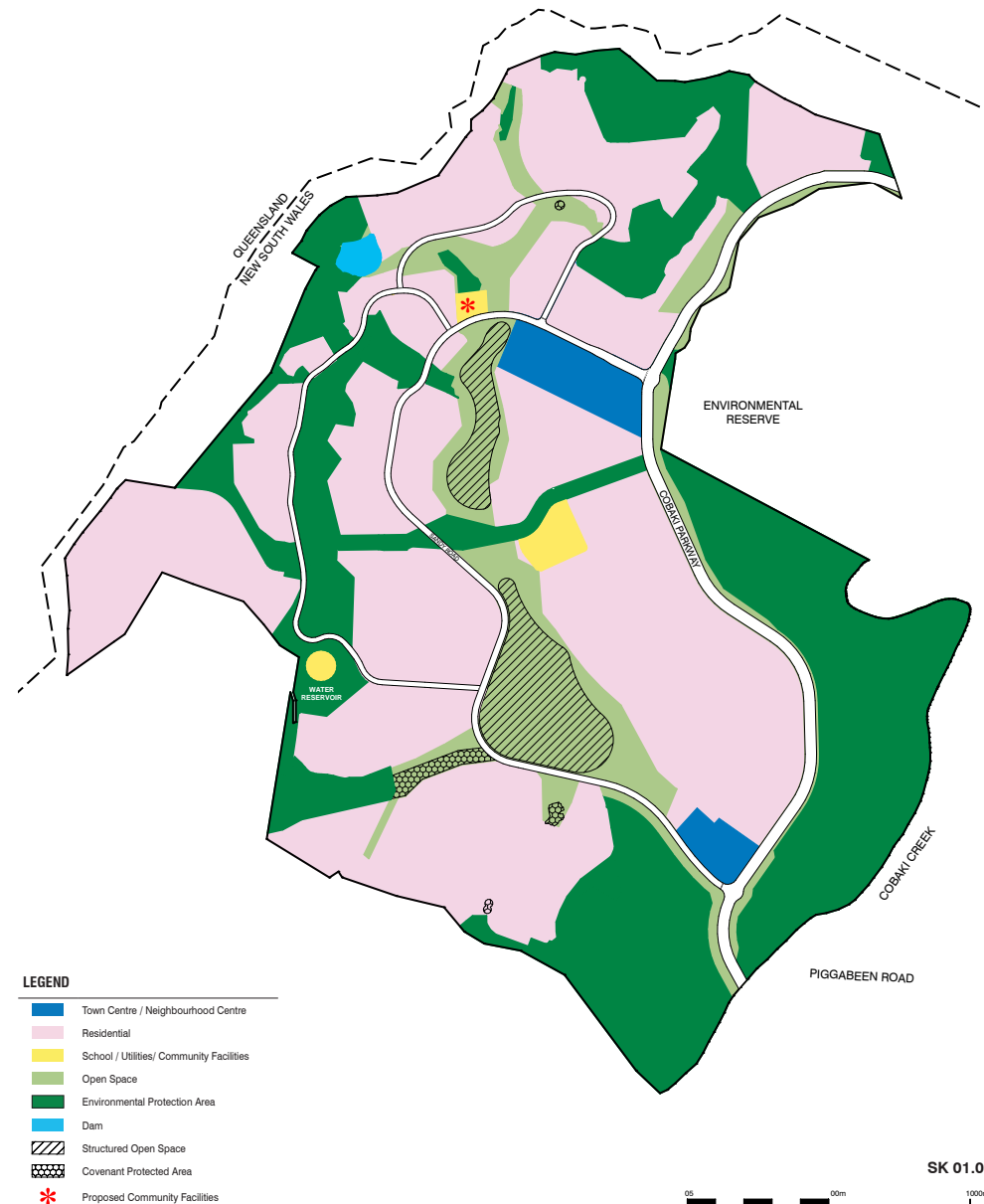


Figure 1: MOD 8 Concept Plan
16-102 Piggabeen Road, Cobaki Lakes
Visual Impact Assessment

2.0 Existing Visual Character

2.1 The Site

At present, the site is occupied by patches of vegetation, predominantly located along the boundaries of the site. A portion of the site is identified as vegetation conservation associated with Cobaki Creek and Broadwater. These areas are located primarily along natural ridgelines that border the north and western boundaries of the site. The site is generally clear of dense vegetation.

The site is limited to two access points accessible via Boyd Street to Sandy Lane and Piggabeen Road to Sandy Lane. Private unnamed roads exist off Sandy Lane providing access further west and north of the property.

The site is characterised by modest slopes from the middle of the site to the southern and eastern boundaries and is predominantly flat at RL 4. Steep slopes characterise the northern and western boundaries of the property, with the highest point being RL 96 to the south-west.

The topography of land under current conditions is characterised as a topographical amphitheatre, comprising a low level central plain bordered by steep rising hills to the North, South and West. To the East, the site adjoins Cobaki Creek and the Cobaki Broadwater, characterised by natural riparian landscapes with native vegetation including littoral rainforest, mangrove forest and wetlands.



Figure 2: Site Aerial view (source: Google Earth)

2.3 Existing Street Views

2.3.1 View from Boyd Street towards North

Rolling hills with moderate slope and dense vegetation towards the hilltops can be seen.



① Street view from Boyd Street looking towards north end of the site

2.3.2 View from Sandy Lane towards North-East

Cleared land on site and dense vegetation across the boundary of the study area can be seen.



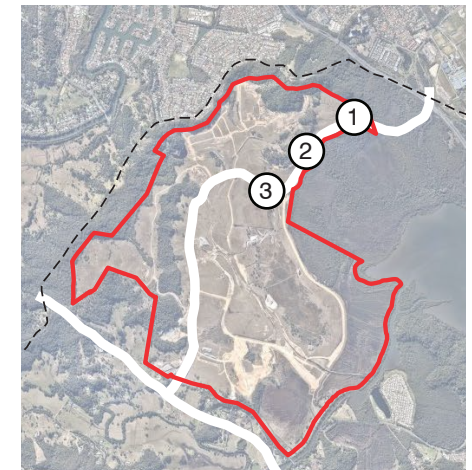
② Street view from Sandy Lane looking towards site boundary on the east

2.3.3 View from Piggabeen Road towards South

Dense vegetation on the hills and cleared land patches can be seen. Increase in tree cover in steeper areas is noticeable.



③ Street view from Sandy Lane towards north-west of the site



Source: Google Street Views

2.4 Landscape Character Zones

Five landscape character zones have been identified within and surrounding the study area comprising:

RESIDENTIAL

Low density housing is located to the north and south-east of the study area.

CLEARED LAND

Land cover within the study area comprises primarily of cleared land

ENVIRONMENTAL PROTECTION LAND

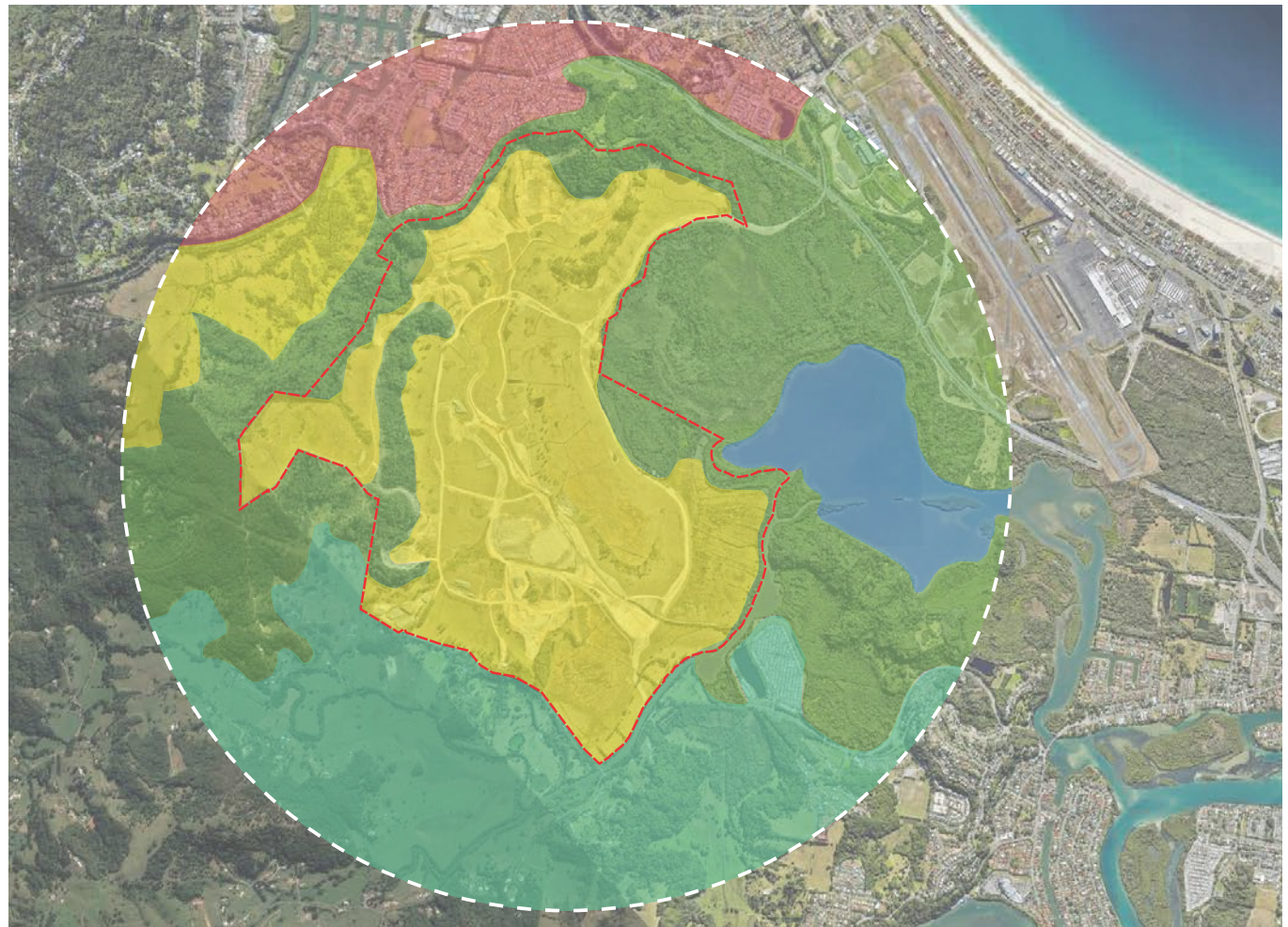
This comprises of dense vegetation areas consisting of predominantly mature trees. Dense vegetation is present on the study area mainly on the site boundaries along the hilly areas. Tree cover increases in steeper areas.

OPEN RURAL LANDSCAPE

The surrounding areas comprise of substantial rural open agricultural land towards south.

WETLAND AREA

The land area next to the site's east is occupied by Cobaki Broadwater and Cobaki Creek continuing further south-east.



LEGEND

 	Subject Site		Residential		Open Rural Landscape
	Cleared Land		Environmental Protection Area		Water Bodies

Figure 3: Landscape Character Zones 

3.0 Visual Analysis

3.1 Process & Methodology

This report adapts the American guidelines which includes the documenting of the visual character of the site ,the analysis of the views followed by assessment impacts based on compatibility, sensitivity and degree of impact. Also it has followed the already done view analysis for the last modifications.

Step 1 - Site Photos

Aireal views of the site were taken from 6 vantage points of concern. These approximate locations and directions were recorded on Google Earth.

Step 2- Digital Terrain Mapping

A 3D digital map of the proposed civil design data with existing contour surrounding data was created.

Step 3- Synchronisation of Site Photos & Terrain Maps

After the 3D Terrain Map has been created in Google Sketch Up Pro, perspective views are projected from the locations of the site's aireal photos depicting the view represented.

Step 4 - 3D Mapping of Potential Building Envelopes

Massing diagrams are produced in Google Sketch Up Pro.

Step 5 - Superimposing 3D Massing onto Site Photos

Massing diagrams produced in Google Sketch Up Pro are aligned onto perspective images produced in Step 3.

Step 6 - Analysis of Images

Final perspective images are studied and analysed based on sensitivity and magnitude of the development to produce visual impact assessment of the proposed development. The visual impact assessment is based on the impact assessment matrix.

Disclaimer: It is important to note that it is impossible to recreate perspective photomontages with 100% accuracy. All images have been synchronised as close as possible with each corresponding 3D view.

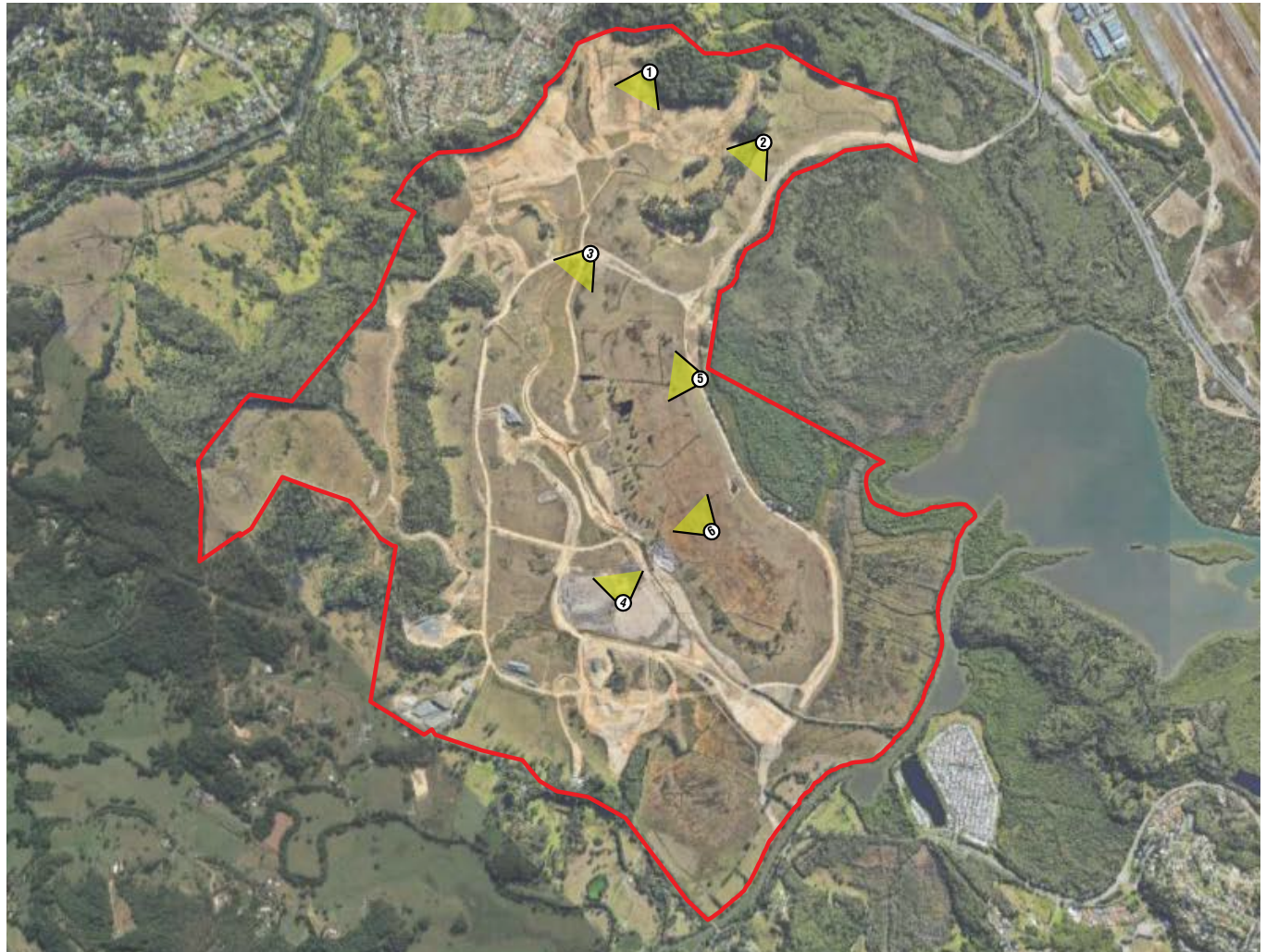


Table 1: Impact Assessment Matrix

Sensitivity	Magnitude of Change		
	High	Moderate	Low
High	High	High-moderate	Moderate
Moderate	High-moderate	Moderate	Moderate-low
Low	Moderate	Moderate-low	low

Figure 4: Vantage Points on the Site

3.1.1 Proposed Precincts Map

Figure 5 to the right illustrates precincts subject to this modification application (MOD 8). Residential development is proposed in majority of the precincts and the town centre is proposed within precinct 5. The visual impact assessment report addresses the height control changes proposed in Precinct 5, Precinct 15 and Precinct 17.

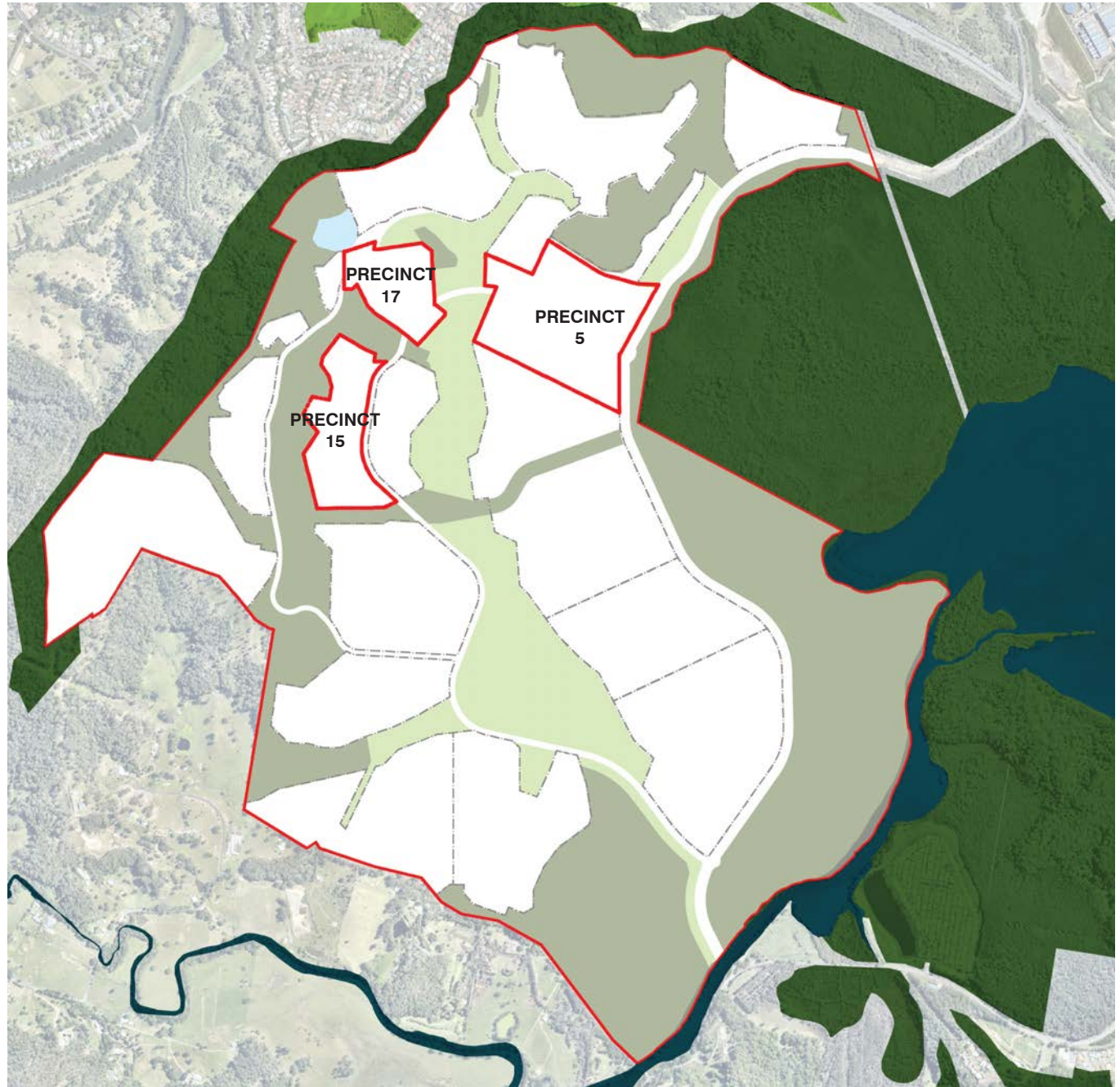


Figure 5: Precincts Subject to Modification 8 of Cobaki Concept Plan MP 06_0316.

3.2 View Points

3.2.1 View 1 North facing South-West

Reasoning behind view location

The location of View 1 is chosen to show the visual impacts of the proposed development envelope seen from north towards south to the town centre and hills.

Analysis

- The height of the proposed envelopes, representing 3 storeys height in majority of the precincts and 5-8 storeys in the town centre and foothills towards the east responds to the site's topography, the undulation of which serves to soften the impact of built form.
- The undeveloped green areas will be landscaped with trees which will further minimise the impact of final developed built form.

Sensitivity

- The sensitivity of the users to the proposed change is moderate given the maximum height in most of the precincts is 3 storeys and in town centre is 8 storeys.

Magnitude

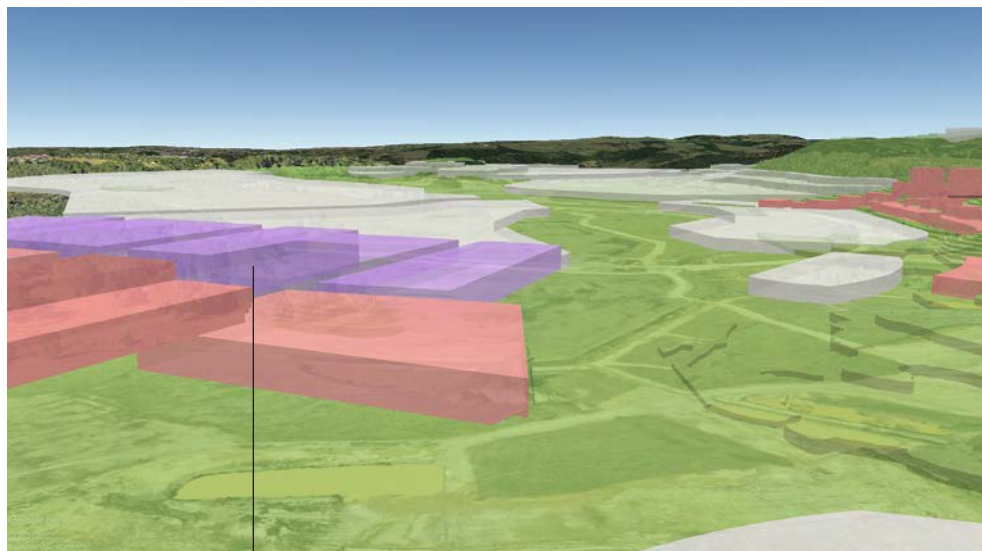
- The magnitude of change is considered to be moderate in terms of the bulk, scale and mass of the proposed development envelope across the rural landscape.

Visual Impact

- The overall assessment of the visual impact for the users is moderate.



VIEW 1 - EXISTING



VIEW 1 - MOD 8

PRECINCT 5
TOWN CENTRE

3.2.2 View 2 North-East facing South-West

Reasoning behind view location

The location of View 2 is chosen to show the visual impacts of the proposed development envelope overlooking the site towards south-west with the visual impacts of the town centre located in precinct 5 in particular.

Analysis

- The proposed built form envelope for town centre varies from 10 to 28 meters (3 , 5 and 8 storeys high).
- The highest proposed development in the town centre is 26 meters (8 storeys) from the natural ground level which does not exceed the ridgeline of 42 meters RL.
- Development on upper slopes within precinct 15 and 17 does not interrupt the skyline when viewed from the valley.

Sensitivity

- The sensitivity of the users to the proposed change is low given the maximum height in most of the precincts is 3 storeys.

Magnitude

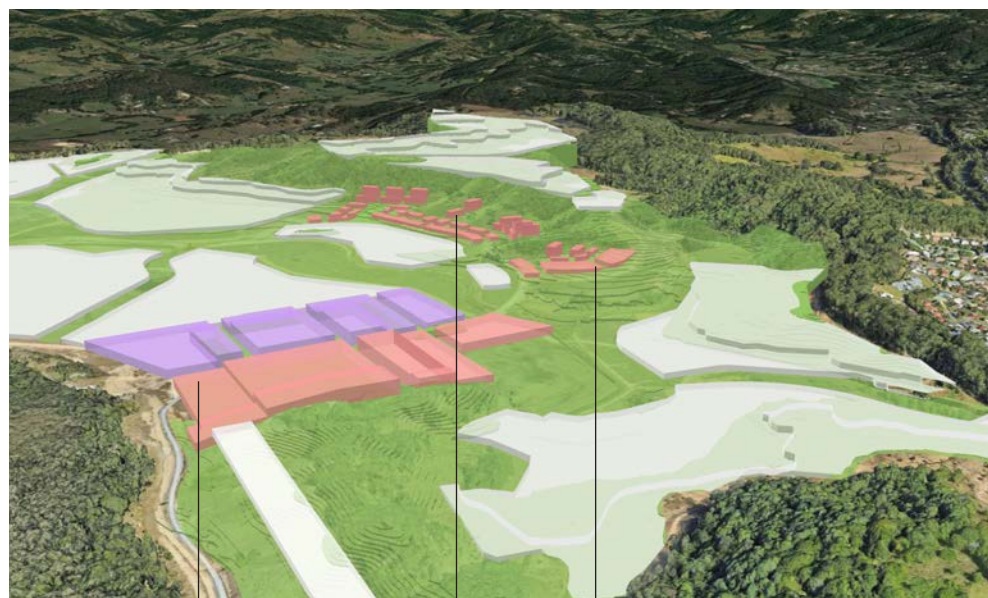
- The magnitude of change is considered to be moderate in terms of the bulk, scale and mass of the proposed development envelope across the rural landscape.

Visual Impact

- The overall assessment of the visual impact for the users is moderate.



VIEW 2 - EXISTING



LEGEND

- Residential
- Town Centre
- Approved Heights under Concept Plan Approval MP06_0316

PRECINCT 5
TOWN CENTRE

PRECINCT 15

PRECINCT 17

VIEW 2 - MOD 8

3.2.3 View 3 Centre of the site facing West

Reasoning behind view location

The location of View 3 is chosen to show the visual impacts of the proposed development envelope overlooking the precinct 15 and 17 which are at the foothills and analyse the impact of 8-10 storeys development in these precincts.

Analysis

- The highest proposed built form in precincts 15 and 17 is of 35 meters (8-10 storeys) from the natural ground level which does not exceed the ridgeline of 52 meters RL. The highest RL of the ridgeline is 74 meters and hence the backdrop view of the hills and the vegetation is not blocked.
- The proposed development envelope sits in harmony with the existing site topography starting with 3 storeys height at the foothills and gradually increasing to 5 storey and 8-10 storeys with increase in height of the ridgeline.

Sensitivity

- The sensitivity of the users to the proposed change is high as the development height increases in precincts 15 and 17 and due to the topography, it appears bigger in scale.

Magnitude

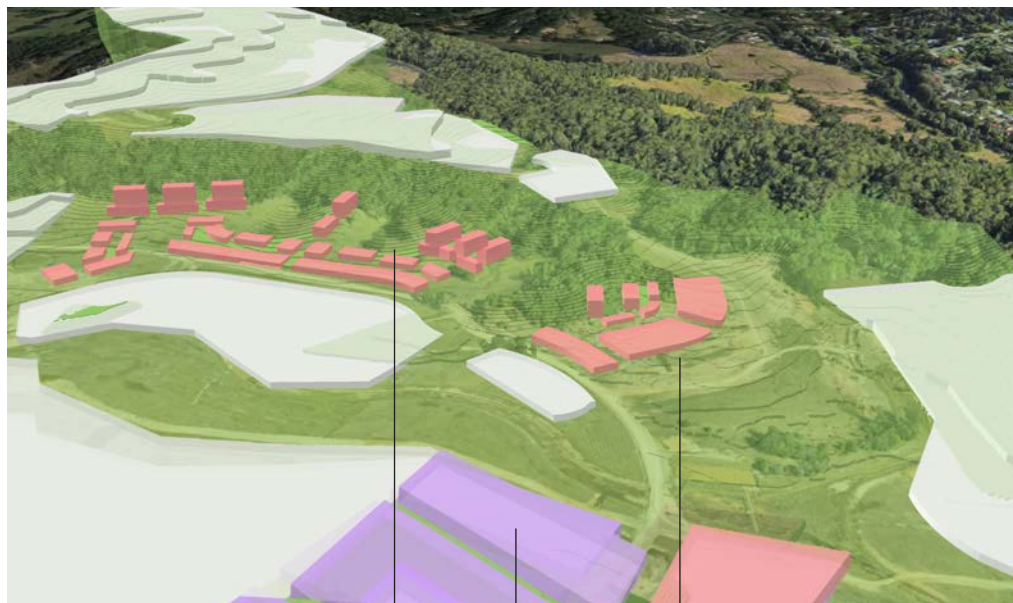
- The magnitude of change is considered to be high in terms of the bulk, scale and mass of the proposed development envelope across the rural landscape.

Visual Impact

- The landscape in between the development envelopes will minimise the visual impacts of the development further on top of the hills in precincts 13 and 16. The overall assessment of the visual impact for the users is high.



VIEW 3 - EXISTING



PRECINCT 15

PRECINCT 5
TOWN CENTRE

PRECINCT 17

VIEW 3 - MOD 8

LEGEND

- Residential
- Town Centre
- Approved Heights under
Concept Plan Approval
MP06_0316

3.2.4 View 4 South of the site facing North

Reasoning behind view location

The location of View 4 is chosen to show the visual impacts of the entire proposed development envelope in context to its surroundings.

Analysis

- The visual bulk of the overall development is minimised by provision of extensive vegetation patches in between.
- Vegetation on the hilltops is retained which forms the backdrop for the development envelopes at the foothills and also ensure privacy from the surrounding sites towards north and north-east.

Sensitivity

- The sensitivity of the users to the proposed change is low given the maximum height in most of the precincts is 3 storeys.

Magnitude

- The magnitude of change is considered to be moderate in terms of the bulk, scale and mass of the proposed development envelope across the rural landscape.

Visual Impact

- The overall assessment of the visual impact for the users is moderate.



VIEW 4 - EXISTING



VIEW 4 - MOD 8

LEGEND

- Residential
- Town Centre
- Approved Heights under
Concept Plan Approval
MP06_0316

3.2.5 View 5- East of site facing West

Reasoning behind view location

The location of View 5 is chosen to show the visual impacts of the proposed development envelope from the local road running along the eastern boundary of the site.

Analysis

- The proposed development envelope for the town centre in precinct 5 compliments the residential envelope of precinct 6 and 7 due to change in height and also sits in context with the site topography.
- The proposed built form on lower slopes of significant ridges and hills does not obstruct views of mountain tops or ridgelines from the surrounding roads, neighbourhoods and significant viewpoints.

Sensitivity

- The sensitivity of the users to the proposed change is moderate as the building heights increase gradually according to the topography starting from 3 storeys upto 8 storeys at the foothills.

Magnitude

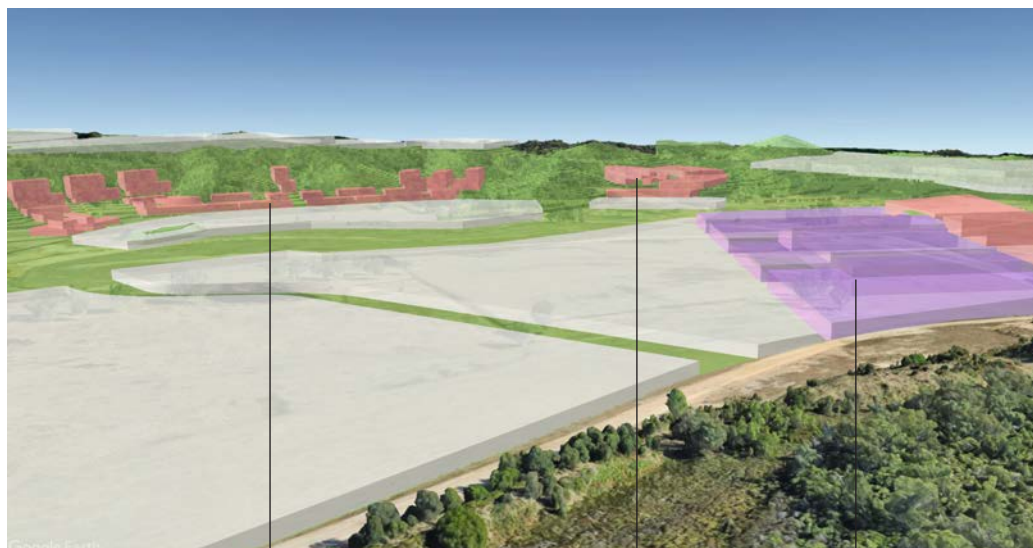
- The magnitude of change is considered to be moderate in terms of the bulk, scale and mass of the proposed development envelope across the rural landscape.

Visual Impact

- The overall assessment of the visual impact for the users is moderate.



VIEW 5 - EXISTING



LEGEND

- Residential
- Town Centre
- Approved Heights under
Concept Plan Approval
MP06_0316

PRECINCT 15

PRECINCT 17

PRECINCT 5
TOWN CENTRE

VIEW 5 - MOD 8

3.2.6 View 6 South-East facing North-West

Reasoning behind view location

The location of View 6 is chosen to show the visual impacts of the proposed development envelope from the flat terrain in south-east looking towards the north end with higher slope and hills.

Analysis

- The approved development heights respond to the existing site topography and ensure that the views to the hills are not blocked.

Sensitivity

- The sensitivity of the users to the proposed change is low given the maximum height in most of the precincts is 3 storeys along with the presence of extensive green open spaces.

Magnitude

- The magnitude of change is considered to be moderate in terms of the bulk, scale and mass of the proposed development envelope across the rural landscape.

Visual Impact

- The proposed development envelope shows a significant amount of open space towards the centre of the site which reduces the overall visual impact of the built form. The overall assessment of the visual impact for the users is low.



VIEW 6 - EXISTING



LEGEND

- Residential
- Town Centre
- Approved Heights under
Concept Plan Approval
MP06_0316

VIEW 6 - MOD 8

3.3 Assessment Summary

3.3.1 Precinct 5

The proposed development envelope for town centre and residential built form in Precinct 5 has urban design merits such as:

- The development envelope varies from 3 to 8 storeys height (13m to 28m) not exceeding the ridgeline of RL 42 m. This ensures the mountain views from a distance and reduces the visual impact due to the bulk and scale of the development;
- The proposed development envelope is of appropriate scale within its existing context and reflects the future desired built form;
- It complements the existing topography of the site;
- It's overall visual impact is minimised by provision of extensive open spaces; and
- The visual bulk and scale of the development responds to the anticipated growth of town centre considering its proximity to the GoldCcoast airport.

3.3.2 Precinct 15 & 17

The proposed development envelope for residential built form in precinct 15 and 17 has urban design merits such as:

- The highest proposed built form in Precinct 15 and Precinct 17 is of 35 meters (8-10 storeys) from the natural ground level which does not exceed the ridgeline of 52 meters RL. The highest RL of the ridgeline is 74 meters and hence the backdrop view of the hills and the vegetation is not blocked;
- The proposed development envelope sits in harmony with the existing site topography starting with 3 storeys height at the foothills and gradually increasing to 5 storey and 8-10 storeys with increase in height of the ridgeline;
- Built form's overall visual impact is minimised by the backdrop of the hills. It does not obstruct views of mountain tops or ridgelines from the surrounding roads, neighbourhoods and significant viewpoints; and
- The built form responds to the anticipated growth of residential areas considering its proximity to the Gold Coast airport.

4.0 Comparative Analysis

4.1 Visual Analysis under Concept

Plan Approval MP06_0316

A view analysis report was prepared by Design Forum Architects to stimulate the visual impact of the development at Cobaki Lakes from seven selected vantage points both inside and outside of the site. It was concluded that the proposed development envelope is appropriate to and balanced with its surroundings. No specific analysis was done for Precinct 15 and Precinct 17. One of the views analyses the impact assessment for the town centre.

Methodology

- The process and methodology employed to stimulate the visual impact of development from selected vantage points is done only through 3D mapping and image analysis.

Overall site view

- The development envelope does not respect the topography and the subdivision of the precincts is not taken into consideration. The backdrop of the hills is lost.

View towards the town centre

- The development envelope for Precinct 5 is of continuous 13.6 meters (3 storeys) height.
- The scale and bulk of built form does not integrate with the site's topography and surrounding open spaces.

The potential outcome for the proposal would be similar to the development in Springfield Lakes and will not be desirable for the subject site.

OVERALL SITE VIEW



EXISTING

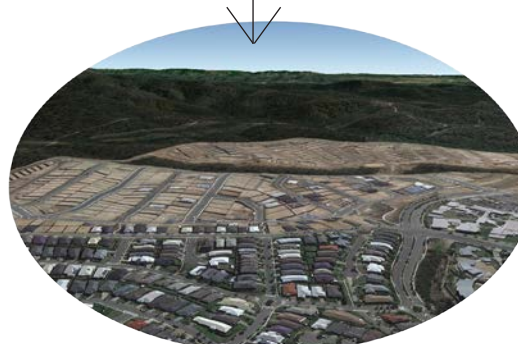


MOD 4

PRECINCT 15

PRECINCT 17

PRECINCT 5
TOWN CENTRE



Potential Outcome (Springfield Lakes)

VIEW TOWARDS COBAKI TOWN CENTRE



EXISTING



MOD 4

PRECINCT 5
TOWN CENTRE

Source: Cobaki Lakes View Analysis Report by Design Forum Architects

4.2 Proposed Modifications

No visual assessment has been conducted since the original view analysis under Concept Plan Approval MP06_0316. This visual impact assessment report addresses the proposed height control modifications. View points for the assessment are chosen to analyse and assess the impacts due to changes in height controls proposed for Precinct 5 (town centre), Precinct 15 and Precinct 17 (Residential)

Methodology

- The process and methodology employed to stimulate the visual impact of development from selected viewpoints is done through 3D mapping and further analysing the images based on the levels of sensitivity and magnitude of change caused due to the development through impact assessment matrix.

Overall site view

- Vegetation on the hilltops is retained which forms the backdrop for the development envelopes at the foothills and also ensure privacy from the surrounding sites towards north and north-east.
- The visual bulk of the overall development envelope is minimised since precinct subdivision is taken into consideration retaining the site's existing slopes and heights gradually increase from the foothills towards the top.

View towards the town centre

- The development envelope for precinct 5 varies from 3 to 8 storeys height (13m to 28m) not exceeding the ridgeline of RL 42 m. This ensures that the views to the mountains behind are not blocked.

OVERALL SITE VIEW



EXISTING



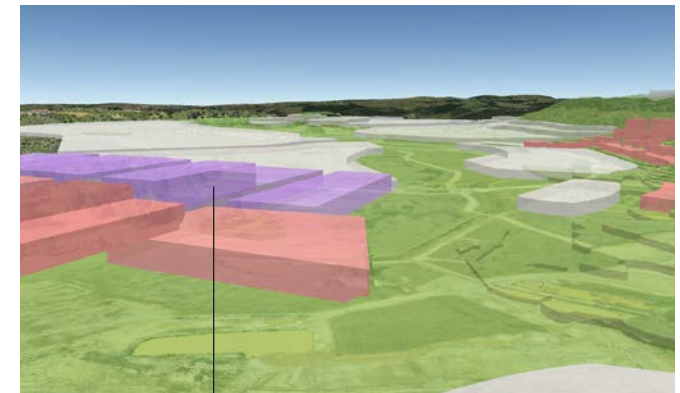
MOD 8

PRECINCT 15 PRECINCT 17 PRECINCT 5
TOWN CENTRE

VIEW TOWARDS COBAKI TOWN CENTRE



EXISTING



MOD 8

PRECINCT 5
TOWN CENTRE

LEGEND

- Residential
- Town Centre
- Approved Heights under
Concept Plan Approval
MP06_0316

5.0 Conclusion

The conclusions drawn from the visual impact assessment are:

- The proposed development at Cobaki Lakes is in context with an emerging residential community representing an activation of the site that will accommodate the population within a built form envelope that is appropriate and balanced with its surroundings.
- The illustrated development envelopes will be eroded in plan and height extent and the visual impact will be minimised through landscaping.
- Most of the existing dense vegetation has been retained which will make the open spaces more significant.
- The assessment in terms of the development's sensitivity and magnitude shows that the overall visual impact of the site is moderate and reflects the desired future growth of the site considering its proximity to the Goldcoast airport.

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