



1443 David Low Way

Visual Impact Assessment

Prepared for Sunshine Coast Council

April 2014



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Abbreviations & Glossary

Terms and Abbreviations	Definition
GIS	Geographic Information Systems
Landscape	Human perception of the land conditioned by knowledge and identity with place (Landscape Institute and Institute for Environmental Management and Assessment, 2002).
Landscape feature	A component, part or feature of the landscape that is prominent or eye-catching, e.g. hills, buildings, vegetation
Mitigation	Limit the intensity, frequency or duration of impacts or prevent impacts.
Visual amenity	The value of a particular area or view in terms of what is seen
Visual catchment	Extent of potential visibility to or from a specific area, feature or proposal
Visual effect or visual impact	Changes in the appearance of the landscape or in the composition of available views as a result of development; and people's responses to these changes and the overall impact to visual amenity. This can be positive (i.e. beneficial or an improvement), negative (i.e. adverse or a detraction) or neutral (neither enhance nor detract)
Visual receptor	Person and/or viewer group that has the potential to experience an impact
ZTV	Zone of Theoretical Visibility

1 Introduction

1.1 Purpose of This Report

GHD has been engaged by Sunshine Coast Council (SCC) to undertake a visual impact assessment for a proposed hotel and residential development (the "Proposal") on approximately 18.75 hectares of land at 1443 David Low Way, Yaroomba (the "site") (refer Figures 1 & 2). There is a current approval for the site comprising a number of buildings up to four storeys plus a rooftop terrace.

This assessment considers the Proposal as presented by the proponent, as well as two alternative scenarios (Option 1 and Option 2), which both have the same number and arrangement of buildings, but lower building heights than the Proposal. Option 1 has buildings at 6, 4, and 3 storeys. Option 2 has building at 8, 6, and 4 storeys. These are described further in Section 3.

Council seeks an objective determination of the likely level of impacts from the proposal on the visual environment, a comparison of likely impacts with the alternative options, and advice on the degree to which the proposal and the alternative options comply with relevant planning provisions and the reasonable expectations of the community.

1.2 General Approach

The process of assessment comprised:

1. Review of the three scenarios, primarily in terms of scale, building form, and building integration with landscape.
2. Analysis of the subject site, particularly with regard to visual qualities, visual accessibility, values and characteristics.
3. Identification of a theoretical visual catchment (ZTV) and potential visual receptors, and the subsequent identification of key sensitive receptors. Sensitivity of key receptors rated.
4. Rating of impact magnitude and subsequent impact significance for each key receptor. The significance of impacts has been evaluated as a product of:
 - a. the sensitivity or value of the receptor being affected
 - b. the magnitude of impacts on the identified receptor.
5. A determination of the acceptability of effects, based on the applicable planning provisions and what would be regarded as reasonable expectations for development.
6. Discussion of recommendations for development of the site.

The assessment included extensive desktop analysis as well as a number of site surveys during March and September 2014. The desktop analysis included a review of: GIS data sets; aerial photography; and models of the local topography, on-site vegetation, and the proposal (which were prepared by SCC). The following summarises the process SCC went through to prepare the models:

- i. Aerial Laser Survey performed. Co-ordinates of survey were provided to Council as Ground and Non-Ground xyz files.
- ii. Terrain and vegetation of subject site and vantage points derived by importing xyz files into CAD software which 'drapes' a surface over xyz vertices. Terrain for remainder of context area is produced by extracting terrain elevation from GIS software and then reducing the resolution to approximately a 10m grid, i.e. 10m on the surface with height at that point.
- iii. Context buildings are extracted from GIS layer which shows outlines of buildings and has height as a parameter for each outline. The building forms are produced by extruding the outline to the height parameter plus the height of the terrain at the highest point within the outline.
- iv. Aerial images at different resolutions are exported from GIS software and geolocated onto the terrain model in the CAD software.
- v. The proposed development was modelled by importing a plan into the CAD software where it was scaled and geolocated by the property boundaries. The plan for the proposed development was then traced with three dimensional elements. Options of the proposed development were produced by modifying the heights of the modelled proposal.
- vi. Vantage points were selected within the model and on site. The location was identified on the model and a camera was placed there at a height of 1.75m above the ground level at that point. In the case of on-road viewing points, this height was reduced slightly to simulate the effect of a seated driver.

A number of photomontages were also prepared by GHD to illustrate the visibility and appearance of previous versions of the proposal (and alternative schemes based on the previous version). These photomontages have not been included in this assessment as the proposal has been substantially amended since they were prepared and they no longer accurately illustrate the currently proposed scheme, or the alternative variations of the proposed scheme. The photomontages did however confirm the accuracy of the models prepared by SCC, which have been amended to reflect the current proposal and variations of the current proposal.

In April 2015, the Applicant erected two cranes on the subject site to demonstrate to the general public the approximate height of the proposed hotel building. Whilst the assessment of the latest proposal had been largely completed by this time, the cranes have validated the findings of the assessment (as presented in this report). As such, where appropriate, photos of the cranes (taken 8th April 2015) have been included for a number of assessed vantage points.

1.3 Assessment Method

This assessment broadly employs the assessment logic set out in the *Guidelines for Landscape and Visual Impact Assessment, Third Edition*, (2013) published by The Landscape Institute and the Institute for Environmental Management and Assessment in the UK (refer Figure 3).

1.3.1 Identifying and Rating Visual Receptors

Visual receptors are people or groups of people that may be affected by the proposal. Receptors were initially identified through desktop assessment, including review of aerial photography and GIS datasets, as well as preparation of a Zone of Theoretical Visibility map (a ZTV map) (Figure 4). A ZTV map identifies a theoretical visual catchment and is a means for identifying potential receptors. ZTV mapping does not take account of buildings or vegetation screening and hence reflects a 'bare-earth landscape', which for the visual impact assessment process represents the "worst case scenario". The ZTV illustrates visibility of the identified point only. The ZTV was prepared for what was considered to be one of the most visible parts of the proposal – a point at roof height (RL 43.35m) above the proposed hotel.

As illustrated on Figure 4, the ZTV was relatively extensive for the nominated point, extending to a local ridgeline to the north; to the beach to the east (views from the ocean were not considered); to existing development to the south (views from further south tended to be obscured by buildings and vegetation); and to Mt Coolum and foothills to the west.

Following the identification of the visual catchment, a number of potential receptors were identified and assessed further. From these, the following were considered to be key receptors in that they were either the most sensitive, or took in an important view that was representative of other views within the catchment. These receptors are listed below and shown on Figure 5.

- VP01 – Point Arkwright roundabout (VP09b), and southern approach to roundabout (VP09c)
- VP02 – Beach, north-east of site
- VP03 – Beach, east of site near existing beach access stairs
- VP04a&b – Beach, east of site
- VP05 – Beach, south-east of site, near beach access track
- VP06 – David Low Way, south-west of site
- VP07 – David Low Way, near Tanah St East
- VP08a&b – David Low Way, existing roundabout (VP08a), and northern approach to roundabout (VP08b)
- VP09a,b,&c – David Low Way, proposed entry roundabout (VP09a), northern approach to
- VP10 – David Low Way, north-west of site, at existing pedestrian crossing
- VP11 – David Low Way, north of site
- VP12 - Yinneburra St, near beach access track
- VP13 - Wunnunga Cr, overlooking vacant lot
- VP14 - Eurungunder La, at end of cul-de-sac
- VP15 - Warrack St, at intersection with Valerie Ave
- VP16 - Toolga St, near Carrock Ct intersection
- VP17 - Mt Coolum, part way up eastern side
- VP18 – Jarnahill Dr, near Power Ct intersection

Figure 3: Steps in assessing visual effects
 (from Guidelines for Landscape and Visual Impact Assessment)

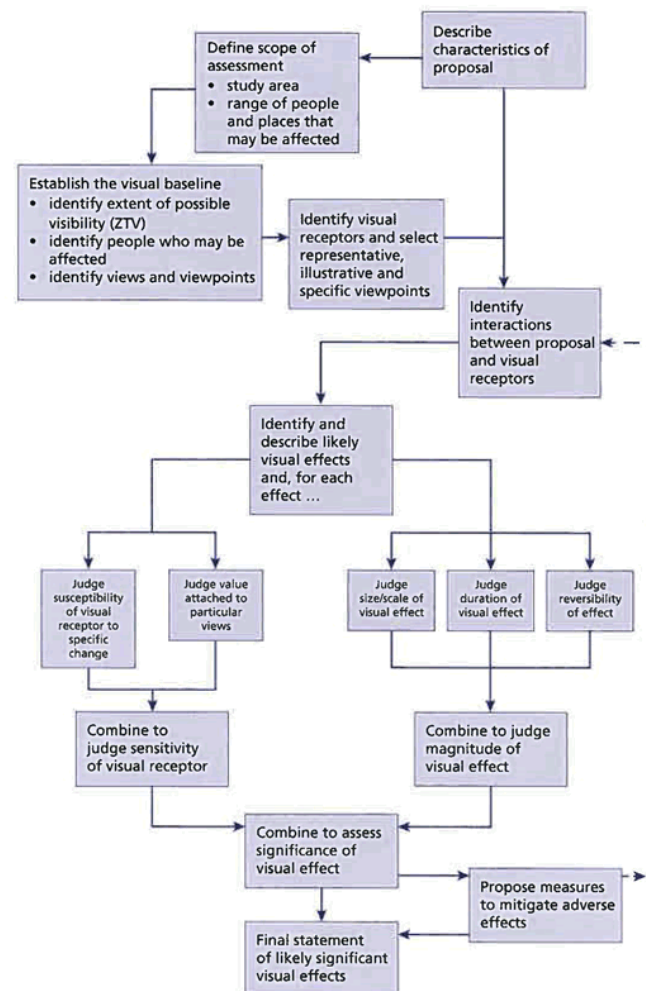


Figure 4: Zone of Theoretical Visibility (ZTV) Map



The nature, and particularly the sensitivity of each receptor was then determined. Visual sensitivity is typically derived from a combination of factors including:

- receptors' interest in the visual environment i.e. high, medium or low interest in their everyday visual environment, and the duration of the effect
- receptors' duration and viewing opportunity i.e. prolonged, regular viewing opportunities
- number of viewers and their distance / angle of view from the source of the effect, extent of screening / filtering of the view, where relevant.

To enable consistency and comparability of the rating, the sensitivity of each receptor has been determined based on the ratings set out in Table 1. Whilst assessment of visual values and effects is largely a qualitative matter, assessment against a scale enables more relevant and reproducible evaluation and comparison of sensitivity of receptors and magnitude of effects. The ratings produced are compared to assessments based on professional judgement and if found to be significantly inconsistent, are further analysed with a higher level of scrutiny.

Table 1: Receptor Sensitivity Rating

Receptor Sensitivity Rating	Description
High	<ul style="list-style-type: none"> • those involved in outdoor recreation where interest focussed on landscape • visitors to heritage sites, scenic routes, or lookouts • locations where views contribute to landscape setting enjoyed by residents (although private views not protected) • highly frequented vantage points offering quality views • prolonged or fixed views from near location
Moderate	<ul style="list-style-type: none"> • travellers along road and rail routes which are not scenic routes • representative of numerous quality views from residential areas • prolonged views • views that are representative of local character or sense of place • views from outside vicinity of site, but within 2.5km • views take in reasonably large context
Low	<ul style="list-style-type: none"> • those involved in outdoor recreation which doesn't depend on views to landscape • people at place of work where setting not important to quality of working environment • views take in broad context within which site is noticeable but not primary focus • views are already partly obstructed or limited • views more than 2.5km away

Figure 5: Location of Assessed Receptor Vantage Points



1.3.2 Rating Potential Effects

As for receptor sensitivity, the nature, and particularly the magnitude of effects was rated. Effect magnitude was evaluated based on variables such as: the quality of the impacts, scale of impact, the geographic extent of the impact, duration and reversibility of particular impacts, and the likelihood of occurrence of impacts. Table 2 below describes impacts that constitute each rating.

Table 2: Effect Magnitude Rating

Effect Magnitude Rating	Description
High	<ul style="list-style-type: none"> overwhelming loss or addition of features in the view, such that nature of view or character of landscape is fundamentally changed key landscape features (such as vegetated buffers or dune systems, or beach) substantially affected significant contrast of any new features or changes compared to existing and remaining landscape views to key landscape elements (such as ocean, skyline, headlands) obstructed geographical extent is regionally significant visual amenity of viewer substantially and permanently altered
Moderate	<ul style="list-style-type: none"> significant loss or addition of features in the view, such that nature of view or character of landscape is altered noticeable contrast of any new features or changes compared to existing and remaining landscape built form partially integrated such that dominance of landscape elements remain views to key landscape elements partially obstructed but views remain in tact geographical extent is locally significant
Low	<ul style="list-style-type: none"> minor memorable change to the landscape or key views impact likely to be temporary or reversible built form well integrated such that landscape is clearly dominant little permanent change to local character
Negligible	<ul style="list-style-type: none"> no memorable change to the landscape or key views

1.3.3 Determination of Effect Significance

The significance of impacts is evaluated as a product of:

- the sensitivity or value of the environment or receptor being affected
- the magnitude of impact on that environment or receptor.

Again, a rating is assigned based on the following matrix (Table 3). The ratings are necessarily accompanied with descriptions and discussion of effects, their magnitude and significance. The ratings themselves are not a determination of the acceptability of the proposal, they are simply a means of comparing effects on different receptors, and with consideration of different effects.

Table 3: Effect Significance Rating

		Effect Magnitude				
			High	Moderate	Low	Negligible
Receptor Sensitivity	High		High	Moderate-High	Moderate	Negligible
	Moderate		Moderate-High	Moderate	Moderate-Low	Negligible
	Low		Moderate	Moderate-Low	Low	Negligible

Determining receptor sensitivity, effect magnitude, and significance of potential impacts requires qualitative (subjective) judgements to be made. The conclusions of this assessment therefore combine objective measurement and subjective professional interpretation.

1.3.4 Determination of Effect Acceptability

The acceptability of the identified effects is based on professional interpretation of planning provisions and what might be regarded as the reasonable expectations of the community (which would be largely informed by planning provisions). The following provisions are those most pertinent to matters of visual amenity and impacts, and are those relevant to the subject site or local area. They are taken from the Coolum Local Plan Code of the Sunshine Coast Planning Scheme.

Purpose and overall outcomes

(a) The Coolum local plan area remains a low key coastal urban community...

(b) Urban development within the Coolum local plan area is limited to land within the urban growth management boundary so as to protect and reinforce the small scale coastal village character and identity of Coolum...

(j) The Palmer Coolum Resort and The Coolum Residences continues to be developed as an integrated tourist and residential development focussed around an 18 hole championship golf course and large areas of open space. Development is configured in a series of beachside villages and other precincts that sit lightly in the landscape and that are separated by green corridors and lush subtropical landscaping. Development protects the natural vegetated character of the coastal foreshore and foredunes and respects the scale and character of surrounding areas and vegetation. Dense vegetated buffers are maintained along the David Low Way and surrounding the Palmer Coolum Resort to effectively screen development and protect the scenic amenity of David Low Way and the amenity of nearby residential areas.

(k) Development is designed and sited to protect significant environmental areas, character vegetation and views either to or from important landscape features and to reflect the physical characteristics and constraints of the land, including the protection of sensitive slopes, remnant vegetation and other ecologically important areas.

(l) Locally significant landscape and environmental elements which contribute to the character, identity and sense of place of the Coolum local plan area including Mount Coolum, Stumers Creek, Coolum and Peregrin sections of the Noosa National Park, Point Perry, Point Arkwright, Mount Emu, Eurungunder Hill, remaining parts of the Point Arkwright bushland mosaic, rainforest areas on the Palmer Coolum Resort site, the Yaroomba parabolic dune and other foreshore dunes are retained in their natural state and protected from intrusion by built form elements and other aspects of urban development.

(m) Development is supported by a network of open space to meet the needs of the local community and facilitates safe and convenient pedestrian and cycle connections between and around key destinations within the local plan area.

Performance Outcome PO1

Development provides for buildings, structures and landscaping that are consistent with and reflect the low key beachside character of the Coolum local plan area in that they are integrated with the natural and coastal landscape and skyline vegetation in terms of scale, siting, form, composition and use of materials.

Performance Outcome PO3

Development provides for the retention and enhancement of key landscape elements including significant views and vistas, existing character trees and areas of significant vegetation, contributing to the setting, character and sense of place of the Coolum local plan area.

Performance Outcome PO4

Development provides for locally significant landscape and environmental elements, including Mount Coolum... Point Arkwright... the Yaroomba parabolic dune and other foreshore dunes, to be retained in their natural state and protected from intrusion by built form elements and other aspects of urban development.

Performance Outcome PO16

Development in the Emerging Community zone in Precinct COL LPP-1 (Palmer Coolum Resort and The Coolum Residences) identified on Local Plan Map LPM11:-

...

(d) protects the natural vegetated character of the coastal foreshore and foredunes;

(e) provides for development and building design which respects the scale and character of surrounding areas and vegetation;

...

(g) provides for the maintenance and enhancement of public access to the beach and foreshore in a manner that respects the natural foredune and beach character and environmental values;

...

(i) protects the visual amenity of the road network through the maintenance and enhancement of dense vegetated buffers to David Low Way and surrounding the Palmer Coolum Resort; and

(j) provides for the maintenance and enhancement of the environmental and landscape values of the area...

In addition to the above provisions, it is relevant to note that the Strategic Framework of the Sunshine Coast Planning Scheme includes provisions seeking to protect and enhance prominent landscape features and areas of scenic value, and to protect local views of importance. Specifically, the Strategic Framework identifies (on Map SFM 6) both Mt Cooloom and Pt Arkwright as landscape elements to be protected and enhanced. Further, these landscape elements, as well as the dune system along the east of the subject site and part of the subject site itself are identified (on Map SFM 6) as High Value Scenic Areas which are to be protected and enhanced.

1.4 Scope Limitations and Assumptions

Given the nature of the proposal and the stage it is at in the planning process, this assessment is a preliminary assessment intended to provide initial advice on the appropriateness of the proposal. Should the proposal continue through the application process it is likely that the design will change and be further resolved. It is likely that, given the inherent sensitivity of the subject site and local community, a more detailed visual impact assessment would be required when the proposed design is resolved.

The assessment relies heavily on the model prepared by SCC. The buildings have been modelled as rudimentary blocks, which do not incorporate the articulation and architectural treatments or ancillary features proposed by the proponent. This lack of detail is however unlikely to have any significant bearing on the assessment, which is fundamentally concerned with how visible the proposal would be. In relation to the demonstration of building heights for the Proposal, the heights of these buildings are based on the material supplied by the proponent. In relation to building height for the options presented for comparison (Option 1 and Option 2), the buildings are based on standardised building heights reflecting the approach taken to building heights in the proposal.

Details about the extent of bulk earthworks were not known at the time of assessment, except for a nominated finished ground level of 5.5m AHD across the site.

It is not known how much of the existing vegetation within the site is likely to be retained, outside of the protection of vegetation buffer on the David Low Way frontage. Whilst the proponent's public documents indicate a building site cover in the order of 16% (leaving significant potential area on site for the provision of landscaping), the documents also note that vegetation within the site is not significant and is required to be removed to allow for earthworks. It is not clear how much will be removed, nor the extent to which new landscaping is proposed, except that the proponent's photomontages show extensive vegetation between buildings. It has therefore been assumed that there will be substantial removal of internal vegetation, with some new vegetation to be added around buildings. It is expected that any new landscaping would occur in conjunction with the staging of the development and would then take some time (4-7 years) to mature. It has been assumed that the type of new landscape likely to occur would have limited potential to mitigate any visual impacts of the proposed buildings as experienced from beyond the site.

Details about lighting and reflectivity of the proposal were not known at the time of assessment. It has been assumed that the proposal would incorporate building, street, and supplementary lighting that would be visible from beyond the site, although it is possible that light spill on to the beach will be controlled for ecological reasons. It has been assumed that the glazing proposed would have a level of reflectivity typical of these types of buildings. It has also been assumed that there can be a degree of control on lighting and reflectivity impacts if required.

While some information about peak hour traffic generation has been provided by the Applicant, projected traffic volume increases during construction and operation (throughout the day) and extent of road upgrades were not known at the time of assessment. As such, traffic impacts (i.e. impacts on the visual environment arising from increases in traffic activity or changes to road infrastructure) have not been specifically considered in this assessment.

This assessment does not consider sensitive receptors within the ocean east of the site.

This report is only concerned with assessment of impacts on the visual environment. Impacts on the landscape (including character) have not been specifically assessed.

Cumulative impacts were only considered in terms of cumulative effects that might result from numerous buildings. The effects from the project were not considered in relation to other projects in the area.

The area of study for the assessment takes in the site and a broader study within which the proposed development may influence visual amenity. Beyond this study area (which extends in the order of 2.5km) it is unlikely that the proposal would be sufficiently prominent to affect visual amenity.

This assessment is primarily concerned with public vantage points. Views from private vantage points (such as houses) are not protected in planning instruments. It is relevant to note however that a number of the receptors assessed are considered to be representative of views from nearby private vantage points.