Ella Bay Integrated Resort Proposal

Supplementary Environmental Impact Statement

Submission Response: 1.7 Additional Issues Raised

1.7 Additional Issues Raised

1.7.1 Introduction

This section provides responses to issues that were raised during the submission process that could not be collated into previous sections. What follows is a brief summary of these issues before a detailed response to specific issues raised. This introduction provides a backdrop for the reader to understand the broad issues, which have emerged in the areas of:

- *mosquito management;*
- *management of sustainable development;*
- *town and regional planning;*
- *visual impact of the built form;*
- *coastal management;*
- *emergency and hazard;*
- *local climate;*
- *the body corporate structure; and*
- *existing road easements.*

Key Issues

The responses in Additional Issues Raised have been developed in consideration of the overall objectives and philosophy of the Proposal set out in the original EIS Executive Summary.

In developing the responses to these additional issues, the proponent took the concerns of all the submitters and key stakeholders into consideration, while also ensuring that any potential impact on the natural environment is minimised.

In developing responses, the proponent engaged a number of specialist consultants to provide detailed advice in relation to specific submitter concerns.

- Mosquito Consulting Services Pty Ltd, specialists in biting insect impact assessment and the development of vector (mosquito) management programs were engaged to provide consulting advice on vector hazard identification and management measures for Ella Bay. The full report can be found at Volume 4, Appendix A.2.13 and should be read in conjunction with mosquito related responses.
- Innovative Planning Solutions Pty Ltd, a town planning consultancy that provides strategic planning advice for projects throughout Queensland, have developed a detailed *Preliminary Approval Document and Local Area Structure Plan*, which is available at Volume 4, Appendix A.2.12.

- BMT WBM Pty Ltd, specialists in coastal engineering and environmental investigations, conducted a detailed reassessment of the erosion prone area. The full report is available at Volume 4, Appendix A.2.8 and should be read in conjunction with coastal management related responses.
- In coordination with DBI Design, a multi disciplinary design company offering services in Architecture, Interior Design, Landscape Design and Master Planning, the proponent are developing a detailed set of Design and Living Principles that includes measures to retain the visual amenity of World Heritage Areas..

An overview and summary of the key findings for each of the specific areas covered in this section are provided below.

Mosquito Management

Mosquito Consulting Services Pty Ltd found that in the context of the proposed Ella Bay development and the incorporated Mosquito Management Plan, the risk of vector impacts on residents should be managed to within reasonable expectations of public health and amenity.

- The Site will be subject to general regional impact by mosquito activity when seasonal conditions are very wet. Potential threat species in the context of the Site include *An farauti s.l., Ve funerea, Cx annulirostris, Ae vigilax* and *Ae aegypti*. The nearby wetlands may contribute to an increase in exposure to *Ve funerea* above its general rates.
- With the implementation of the Mosquito Management Program the risk from these mosquitoes is considered relatively small.
- Control of water storage and storm-water treatment on site requires careful implementation to minimise mosquito production. Strategies for achieving this appear in the report (Volume 4, Appendix A.2.13).
- The prevailing breeze during the summer wet season is generally north to north-easterly. This is beneficial for further minimising likely incursion of these mosquitoes from breeding sites into the development.

Management of Sustainable Development

- The proponent has developed an extensive integrated set of conservation strategies for all phases of the Ella Bay Township that will be subject to ongoing reporting and auditing.
- The project relies upon the 'use of proven technologies in innovative, creative and feasible ways', selected in consideration of the significant individual characteristics of the Ella Bay Site, in achieving goals of sustainable development leadership.
- The Ella Bay Intergrated Resort is reliant upon 'great science' and 'proven technologies', however in the mid- to long-term, innovative research by leading tertiary institutions will be beneficial for the

proposed development of Ella Bay, the surrounding natural environment, the wider community in North Queensland and beyond.

- Ongoing monitoring is to be an integral component of impact mitigation and conservation management within the Ella Bay Integrated Resort; to ensure that the proposed development does not have a significant impact on World Heritage values and the sensitive natural environment.

Town and Regional Planning

- The self-sufficiency, scale and scope of the proposed development are considered to be acceptable in the Site and regional context.
- The self-sufficiency, scale and scope of the proposed development are considered to be in accordance with the guiding principles of the Far North Queensland Regional Plan (2010) and the Wet Tropics Coast Regional Coastal Management Plan.
- A detailed *Local Area Plan* has been developed and is incorporated in Volume 2, Section 2.4 and Volume 4, Appendix A.2.12.

Visual Impact

- An analysis of the visual impact of the Ella Bay Integrated Resort has found that with incorporated mitigation measures, the proposal will have minimal impact on the scenic values of adjacent World Heritage Areas.
- The retention of existing vegetation will conceal the predominant areas of the development and additional extensive revegetation and rehabilitation works will further improve natural screening. The increase in onsite habitat incorporating an extensive network of vegetation corridors will result in a substantial visual improvement to the currently degraded cattle property.
- The Design and Living Principles will ensure that built form is appropriate for the Ella Bay site and the natural surrounds thereby mitigating any visual impacts upon scenic values of the surrounding World Heritage Areas.

Coastal Management

- It is proposed that the Ella Bay Integrated Resort will be setback outside the erosion prone area, however the extent and location of the erosion prone area has been reassessed by BMT WBM Pty Ltd.
- Using the accepted Beach Protection Authority calculation procedure, for a 50 year planning timeframe considering long and short-term erosion, sea level rise due to the greenhouse effect and erosion scarp slumping, an erosion prone width of 200 metres has been calculated for the Northern Resort Areas and 80 metres for the remaining beach areas of the Site south of the creek entrance (refer to Volume 4, Appendix A.2.8).

- The resorts are to be located well outside of this Erosion Prone Area, with the northern resorts to be setback a minimum 200 metres from the Highest Astronomical Tide (HAT) and the remaining resorts south of the creek to be setback a minimum of 110 metres (from HAT) (refer to figure 1.7.11).

Emergency and Hazard

- A site specific assessment of the bushfire hazard using the methodology in the State Planning Policy Guideline (SPP 1/03), *Mitigating the Adverse Impacts of Flood, Bushfire and Landslide,* indicates that the vegetation on site poses a low fire danger.
- Controlled management of potential storm surge inundation through tested construction techniques is proposed for the resort parcels that may occur below the effected areas (refer to figures 1.7.15-1.7.20).
- A single access road is considered sufficient in the case of an emergency evacuation and an Emergency Management Plan is to be finalised during the detailed design phase.

Local Climate

- The proponent acknowledges that the Site is set in tropical climatic conditions, and that the region experiences periods of high rainfall.
- The average annual rainfall map (figure 1.7.21) indicates that a number of coastal regions along the popular tourist pathway Cairns-to-Cooktown and Tully-to-Mission Beach also experience very high rainfall.
- It is expected that the peak period for tourist activity will be the dry season. However, Tourism Tropical North Queensland acknowledges that the high rainfall periods of the wet season do not generally interfere with the day-to-day activities of residents and guests.

Body Corporate Structure

- Responsibility for compliance with legislation concerning the environment will be the responsibility of the Ella Bay Body Corporate.
- A transitional arrangement during staging and operational works will be put in place between the Developer and the Ella Bay Body Corporate.
- Large, master planned communities are now more common and they generally adopt the strategy outlined above. For example, this is the approach used at the award winning EcoVillage at Currumbin Valley, South-East Queensland.

Existing Road Easements

- Dissecting the Site, two gazetted but unconstructed road easements join the coastal esplanade with the National Park and World Heritage Area (WHA) to the west and provide the only guaranteed public access across the freehold land from the coast to the WHA in the west.
- It is proposed that public pedestrian access will be provided through the Site to the WHA in the west via vegetation corridors recognised as Conservation Covenants. Discussions with Johnstone Shire Council have been conducted to facilitate the process.

1.7.2 Submitter Issue: Mosquito Management

1.7.2.1 Mosquito Breeding Sites and Risk Identification

The EIS fails to recognise the variety of sites that can be utilised for mosquito breeding within the proposed development site, nor the potential impact caused by various species of mosquito dispersing from Ella Bay Wetlands and any nearby salt marsh swamps. The Ella Bay Wetland is likely to provide significant numbers of nuisance and disease vector biting insects on a seasonal basis. It is recommended that the proponent gathers this base line to better inform their development proposal.

It is recommended that Queensland Health be consulted on mosquito management to ensure best practice outcomes are achieved and control measures comply with Queensland Health's guidelines.

EIS reference: Volume 4, Section 4.10.2.7, Volume 3, Section 3.5.4

Submitter reference: 1/52
Queensland Health (44)

Proponent Response

The proponent recognises that a variety of sites can be utilised by mosquitoes for breeding purposes, and the impact of mosquito species breeding and dispersing is a threat which must be adequately addressed and managed. As such, Mosquito Consulting Services Pty Ltd was engaged by the proponent to provide consulting advice on vector (mosquito) and biting midge baseline data and management measures for Ella Bay, to incorporate within the development proposal. The advice was sought to answer submissions in response to the EIS.

In essence the advice concludes that subject to ongoing monitoring and mitigation measures, the impact of vector biting insects on residents and visitors can be managed and controlled. Queensland Health will be contacted during the detailed design stage to ensure that best practice outcomes are achieved and that control measures comply with Queensland Health's guidelines.

Mosquito Consulting Services prepared a *Vector Control Program* for the proponent that is attached in Volume 4, Appendix 2.12. It concluded that the philosophy relative to mosquito and biting midge management in Ella Bay is to:

- demonstrate consistency with *The Public Health Act 2005* and subordinate legislation,
- demonstrate consistency with *The Environment Protection Act 1994*,
- demonstrate consistency with Queensland Health's 2002 publication 'Guidelines to minimize mosquito and biting midge problems in new developments', and
- optimise the amenity of future development for residents, visitors and tourist.

Mosquito risks for the proposed Ella Bay development were assessed using the Australian and New Zealand standard for risk management (AS/NZS 4360). The standard gives a framework to consider risk using a disciplined approach that can be repeated in the future to evaluate changes in risk and measure outcomes. The risk management framework follows these basic steps:

1 *Identify the Hazard* (mosquito borne disease, nuisance biting, public complaints)

2 *In what Context* (the site's exposure to potential mosquito breeding, the design of the proposed development)

3 *Identify the Risks* (as a product of hazard and the likelihood of exposure)

4 *Prioritise Risks* (what risks are important?)

5 *Control the Important Risks*

6 *Evaluate Control Effectiveness*

Mosquito related risks were characterised in terms of likely exposure people may experience within the Site.

Natural breeding sites

The Guidelines to Minimise Mosquito and Biting Midge Problems in New Development Areas (Queensland Health 2002) and Mosquito Management Code Practice for Queensland (Queensland Government and Local Government Association Inc 2002) place emphasis on coastal habitats generally as a potential hazard as mosquito production areas. This includes virtually the whole of the coastal plane including coastal communities. The potential hazards identified and implied by the Guidelines include management of mosquito borne disease and ensuring exposure of people to biting activity to is maintained at reasonably acceptable levels.

The trapping data from near the Site (Standfast and Barrow, 1969) and its interpretation indicates that the Site shares similar general levels of mosquito exposure to other coastal areas along with some site specific mosquito threats. The general threat species include *Ae vigilax* and *Cx annulirostris* due to their long flight range and presence of potential habitat within the general region. Published data, anecdotal advice and presence of suitable habitat also support the identification of *Ve funerea* as an occasional potential threat. The potential habitat of *An farauti s.l.* and *Cx annulirostris* also exists. It includes ground water pools potentially retained on Site but more likely to be found on land adjoining. Considering the above, the list of potential threat species in the context of this Site includes:

- *An farauti s.l.*
- *Ve funerea*
- *Cx annulirostris*

- *Ae vigilax*
- *Ae aegypti.*

The investigation undertaken by Mosquito Consulting Services found that the Site is not in close proximity with intertidal estuarine habitat for biting midge of concern. Potential natural mosquito breeding sites identified within the Site are the two creek lines and the low-lying swampland in the south-east portion of the Site, particularly in the upper reaches of creeks and reed areas in a flood plain. The proposed development adjoins natural vegetation that is likely to present harbourage for mosquitoes dispersing from breeding sites outside the Site. At present it is not anticipated that an open buffer of any practical dimension will be provided between outer residential allotments and the Site boundary. A clear buffer of minimum 10 m between the nearest residential allotments and the potential mosquito harbourage around the development margins would be of benefit for management of one of the potential threat species identified—*Ve funerea.* Even relatively narrow buffers are considered to provide a significant barrier to dispersal from potential wetland harbourage into the residential allotments. However, for the wide ranging mosquito species identified as potential threats, *Ae vigilax* and *Cx annulirostris,* buffer zones of less than several hundred meters are generally not effective at preventing their dispersal. In the context of the proposed development, the absence of a buffer would have a relatively small impact on reducing overall mosquito exposure. The seasonal presence of *Cx annulirostris* which occurs from time to time over the wider general region somewhat obviates the practical functionality of a buffer. The prevailing sea-breeze should though be considered helpful in minimising intrusion by mosquitoes from the landward harbourage vegetation.

Prevailing sea-breezes during the summer wet season are northerly to north-easterly (Commonwealth of Australia, 2007). Generally, the breeze direction should tend to drive mosquitoes away from the Site. The location of the proposed development as east of the wetland takes advantage of this prevailing sea-breeze. There is little specific data available to suggest that the proposed Ella Bay development would be significantly more exposed to these species than the general area.

It is considered that the proposed development will be exposed (from time to time) to moderate numbers of mosquitoes dispersing from breeding sites outside the Site. The aforementioned threat mosquito species should be controlled by implementing an integrated approach of appropriate built environment design, including protection to buildings, water storages (tanks), storm-water systems, outdoor entertainment and recreational focal points and also by implementing an active mosquito control program when required.

Source reduction is targeted at mosquito breeding sites within the occupied portions of the Site. In particular these sites comprise artefacts holding water (providing breeding sites for *Ae aegypti*) and ground pools (providing breeding opportunity for *Cx annulirostris* and An *farauti*) created during construction of the proposed development. These are relatively small in size but are numerous and collectively they represent a

significant breeding opportunity for domestic and peri-domestic mosquito species. The management plan is the responsibility of the developer during construction then continued control of mosquito breeding within the Site will pass to the Body Corporate to ensure good maintenance and environmental sanitation measures are implemented to minimise risk of *Ae aegypti* and ground pool breeding species around dwellings and development infrastructure. There is no intention to reduce ground water pools associated with the rainforest or margins of the Site.

It should be noted that the Proposal does not include any man-made lakes that may provide mosquito habitat or potential breeding sites. Further details of mosquito risk identification and management measures relating to Storm-Water Drainage System can be found in Volume 1, Section 1.7.2.2.

1.7.2.2 Storm-water Drainage Systems

Elements of the storm-water drainage systems, e.g. infiltration basins, street based swales and/or bio-retention systems will provide potential mosquito breeding sites whenever these structures retain water for a period greater than seven days. Gross pollutant traps may require regular monitoring and/or maintenance to prevent mosquito breeding.

EIS reference: Volume 3. Section 3.5.4

Submitter reference: 1/52
Queensland Health (44)

Proponent Response

Elements of the storm-water drainage systems will be carefully designed, managed and maintained so as to minimise the potential of fostering or encouraging mosquito breeding sites. Mosquito Consulting Services Pty Ltd provided a risk assessment relative to storm-water management systems, as well as providing recommendations for design features and management techniques (refer to Volume 4, Appendix 2.12).

Risk Assessment Relative to Storm-Water Management Systems

- The total area of the proposed storm-water treatment likely to remain wet is very small. In the context of the surrounding area containing freshwater wetlands, the proposed storm-water treatment represents little likely increase in potential habitat.
- Swales feeding the wetlands should flow without standing surface water being available for mosquito breeding.
- The mosquito species of interest most likely to be produced is *Ae aegypti* unless adequate storm-water design is followed per recommendations of the Vector Control Program (Volume 4, Appendix A.2.13).
- The potential mosquito impacts from sources outside the Site are considered a higher risk of biting attack with *Ve funereal* the most likely adult mosquito species.

Recommended Design Features and Storm-Water Management

Generically, techniques for the management of urban storm-water to meet required standards of runoff water quality include:

- grass swale drains and buffer strips along road verges and through drainage easements,
- detention ponds to capture allotment runoff for attenuation,
- wetland filters prior to final discharge for storm water polishing, and
- porous pavements, rainwater tanks, infiltration devices and gross pollutant traps.

Mosquito Management Services found that from a mosquito management perspective, storm-water management systems, such as constructed wetlands, generally follow design goals that tend to increase opportunities for mosquitoes to breed. If not managed effectively such wetlands can become a source of unacceptable mosquito production. The basic generic design features that reduce opportunities for mosquitoes in constructed wetlands generally include:

- that the batter around the constructed wetlands should be as steep as practical (within the design standards for public safety) to minimise shallow water suited to mosquito breeding and if fencing is not used for public safety, a batter not greater than 1:6 is recommended;
- that normal water levels within the wetland should maintain at a minimum of 500 mm water depth, except for the margins;
- improving opportunities for wind action, to keep the water surface disturbed, to reduce availability of stable surface film to mosquito larvae that require contact with it for respiration—therefore basin margins should not be planted with shrubs or trees;
- that aquatic macrophytes should not be planted in more than 60% of shallow water (<500 mm) around the margin and they should be clumped with separations of open water, allowing wind disturbance on the water surface;
- that detention basins and swales should be designed to empty of surface water in less than seven days, to prevent the completion of mosquito breeding cycles;
- that storm water traps and sumps should be free draining without holding water—the base of pre-cast/moulded storm-water sumps designed to trap sediment should be concrete filled to the invert level of the drainpipe.

These techniques are to be implemented where appropriate as part of the detailed design and construction phases.

1.7.2.3 Mosquito Proof Housing Design

Elements of building design should not facilitate dengue mosquito breeding. Therefore, any subterranean gully traps/drainage pits in new buildings or landscaped areas should be made mosquito proof by making the base of drainage pipe level with the base of the pit e.g. partially fill the pit with concrete (or similar).

EIS reference: Volume 4. Section 4.9.1.3

Submitter reference: 1/52
Queensland Health (44)

Proponent Response

The recommendations of Queensland Health—that any subterranean gully traps or drainage pits in new buildings or landscaped areas be made mosquito proof by making the base of drainage pipe level with the base of the pit—will be incorporated as part of the *Design and Living Principles*.

The proponent is intending to establish a number of measures to ensure that environmentally sustainable and suitable housing design is adopted throughout the Ella Bay Community, including the development of binding design covenants and codes that will run with the housing lots. Housing submissions will be appraised by an architectural review committee and be subject to stringent environmental controls, which can be extended to ensure that elements of building design do not facilitate dengue mosquito breeding.

Mosquito Consulting Services found that in established urban communities poor environmental sanitation evidenced by accumulations of discarded articles capable of holding water; poorly maintained garden accouchements and building fittings; and inappropriately stored items may provide breeding opportunity for the dengue vector *Aedes aegypti*. The threat from this mosquito generally follows the occupation of dwellings and is more a function of occupant's behaviour rather than the intrinsic features of residential developments. Therefore, the Welcome Centre and the Body Corporate will play a role in educating residents about the risks of inappropriate behaviour that may provide breeding opportunities for vectors including *Aedes aegypti*

1.7.2.4 Rainwater Tanks

Health regulations require that any rainwater tanks be appropriately screened to prevent mosquito exit or entry. Amendments to the *Public Health Regulation 2005*, to commence on 18 June 2007, will specify requirements for the manufacture and maintenance of rainwater tanks to minimise mosquito breeding.

EIS reference: Volume 3. Section 3.5.3.4

Submitter reference: 1/52
Queensland Health (44)

Proponent Response

Measures to ensure the prevention of mosquitoes breeding in rainwater tanks will comply with the *Public Health Regulation 2005* (Div 2P) and specifically include:

a mosquito-proof screens that—

- i are made of brass, copper, aluminium or stainless steel gauze,
- ii have a mesh size of not more than 1 mm,
- iii are installed in a way that does not cause or accelerate corrosion; and
- iv stop mosquitoes passing through the openings; or

b flap valves that, when closed, stop mosquitoes passing through the openings.

It is proposed that a detailed operational plan that includes the mosquito management processes is to be developed. It will include more detailed mapping of mosquito breeding sites for monitoring (larvae and adults) and specific locations of treated barriers. All rainwater tanks will be identified for regular inspection to ensure continued compliance with regulations.

1.7.2.5 Tourist Comfort

No mention is made of biting insects (mosquitoes, biting midgies, march flies) that may significantly impact on the comfort and health of residents and tourists.

EIS reference: Volume 4, Section 4.10.2.7

Submitter reference: 1/52

Queensland Health (44)

Proponent Response

The Mosquito Management Operational Program is based on Integrated Pest Management (IPM) principles of interlocking strategies aimed at reduction of exposure to visitors and tourists to the Ella Bay site. Figure 1.7.1 is a model of Integrated Mosquito Management for the proposed Ella Bay development.

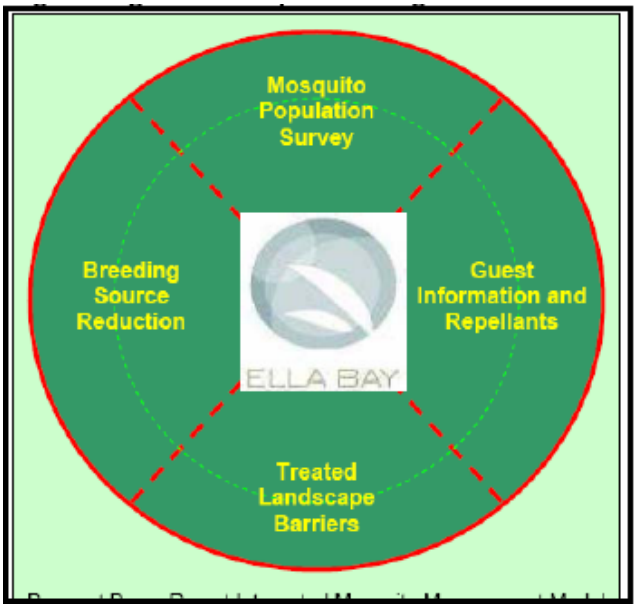


Figure 1.7.1: Integrated Mosquito Management Model

The Mosquito Management Operational Plan for the proposed Ella Bay development contains the protocols by which mosquito impacts on residents, visitors, tourists and staff will be managed. It provides for an integrated management strategy based on a number of actions designed to minimise exposure to mosquitoes within the proposed development.

Delivery of the operational plan will to be a tri-partisan arrangement between the Body Corporate, a treatment application provider and an independent entomologist. The respective roles and responsibilities of the parties will be detailed within the body of this document. The independent medical entomologist will maintain technical control of the Operational Plan.

The core values upon which the Operational Plan is based are the

- improvement of public health outcomes for residents, visitors and tourists by ensuring compliance with the *Public Health Act 2005*, Public Health Regulation, the Guidelines to Minimise Mosquito and Biting Midge Problems in New Developments (Qld Health, 2002) and the Mosquito Management Code Practice for Queensland (Queensland Government and Local Government Association Inc, 2002); and
- provision of ecological sustainability by compliance to the *Environmental Protection Act 1994* General Environmental Duty.

The Operational Plan will be reviewed annually and adjusted according to improvements in knowledge about mosquito management and ecological sustainability. It is intended as a living document but subject to proper scientific oversight. Changes will be made only to improve outcomes against the listed values.

Active components of the Mosquito Management Operational Plan, including advice to guests and treated barriers, will be activated in a timely fashion by monitoring for changes in mosquito populations on the Site. A number of parameters will be monitored, which include:

- seasonality relative to mosquitoes (generally October–May),
- Site rainfall likely to result in increased mosquito breeding,
- regional weather (rain and winds) likely to influence the regional abundance and dispersal of mosquitoes,
- mosquito breeding in ground pools,
- adult mosquito collected in light traps at standard locations within the proposed development.

It is intended that each of the tasks involved in mosquito population monitoring would be progressively activated. Where indications are positive for increasing mosquito production, such as high rainfall in summer, Site surveys will be undertaken to determine the status of mosquito populations. Detection of increasing mosquito production would then trigger active components of the program. Advisory information will be provided to the developer and Body Corporate to begin notification of staff and guests that mosquitoes may become more noticeable and appropriate precautions should be taken.

Progressing from the advisory role, mosquito population changes may then trigger activation of the treated barrier component of the program. The decision to activate this control should not be based on an arbitrary number of mosquitoes collected in light traps.

Seasonality, weather forecasts, mosquito species composition, their abundance and human activity will all influence the likely exposure of residents, visitors, tourists and staff to mosquitoes at any given time. The

decision to activate barrier treatments will be made consultatively between the independent entomologist and the Body Corporate. The objective data, including trap results and weather information, will be documented and maintained as evidence for decisions made. For further information regarding aspects of Mosquito Management Operational Plan, see Volume 4, Appendix A.2.12.

1.7.3 Submitter Issue: Management of Sustainable Development

1.7.3.1 Conservation Strategies

The proposed conservation strategies should be incorporated into the management policies and plans for all aspects of Ella Bay Master Planned Community, and be documented, audited, updated, reported and action researched as an integrated part of the Management Plan.

EIS reference: Volume 5, Section 5

Submitter reference: 2/52
M Hooker (15), C Head & C Belbin (21)

Proponent Response

The proponent has developed an extensive integrated set of conservation strategies for all phases of the Ella Bay Township.

Volume 5 of the EIS included a detailed Environmental Management Plan. The Plan discussed details on responsibilities of audit and reporting including monthly project reports, environment reports, operational reports, daily diaries and weekly reports. Specific potential issues that are addressed in the Plan include Acid Sulphate Soils, Cultural Issues, Landscape, Habitat and Soil Conservation.

In addition, as part of the offsets strategy, the Ella Bay Environmental Trust will establish a detailed series of ongoing auditing, updating and reporting to ensure that programs, including landscape rehabilitation procedures for the rehabilitation and revegetation of habitat, are successful.

Furthermore, the provision of onsite research by leading tertiary institutions will provide ongoing monitoring and will offer innovative sustainable development solutions in the medium- to long-term. This will provide benefit into the future for the development of Ella Bay, the surrounding natural environment, the wider community in North Queensland and beyond.

The conservation strategies refined and improved in this supplementary report are outlined and discussed in detail in Volume 2 and Volume 4 and include the Cassowary Management Strategy, the Road Entry Strategy, a Water Quality Management Strategy, and an Integrated Package for Regulated Offsets and Additional Environmental Investments (currently under negotiation with environmental government agencies).

1.7.3.2 Achievable Sustainable Development

It is considered that the EIS fails to demonstrate sustainable development leadership attributes achievable for a project of this scale and in this type of location (wet tropical lowland). The technologies suggested lack large scale demonstration of successful use in a tropical environment when absorption and evaporation conditions vary markedly throughout the year.

EIS reference: Volume 2, Section 2.1.1.2

Submitter reference: 1/52

Wet Tropics Management Authority (50)

Proponent Response

The EIS Executive Summary and Volume 2 indicate that the project relies upon the 'use of proven technologies in innovative, creative and feasible ways' in achieving goals of sustainable development leadership.

The technology and techniques for sustainable development have been selected in consideration of the significant individual characteristics of the Ella Bay Site and specific development requirements. These characteristics include the scale of the development, the local topography, periods of high rainfall, humidity, and absorption, and evaporation rates.

For a detailed discussion on the proposed sustainable development technologies refer to the Ecologically Sustainable Development Report at Volume 4, Appendix A.2.10.

1.7.3.3 Sustainability Research Unit

Collaborative research with James Cook University and University of Queensland is a possibility, however as it would not commence for some time it is unlikely that it will contribute to the design of the proposed development.

EIS reference: Volume 2, Section 2.1.5

Submitter reference: 1/52
Wet Tropics Management Authority (50)

Proponent Response

At this stage of the planning process the Ella Bay Integrated Resort is reliant upon modern science and proven technologies, however in the mid- to long-term innovative research by leading tertiary institutions is to be conducted. The provision of ongoing onsite research will benefit the development of Ella Bay, the surrounding natural environment, the wider community in North Queensland and beyond.

A detailed list of research proposals is located in Volume 4, Appendix A.3.9 and potential study areas may include:

- social and community studies,
- flora and fauna studies,
- disaster management planning and response, and
- innovative sustainable planning and building design.

Refer to Volume 4, Appendix A.3.9 for the full list of research proposals.

1.7.3.4 General Monitoring

Baseline studies of the Site should take place for a minimum of one year. Monitoring and assessment should also take place through the construction and during operation, ensuring the proposed development does not have a significant impact on the World Heritage values.

EIS reference: Volume 5, Section 5

Submitter reference: 1/52
Department of the Environment and Water Resources (51)

Proponent Response

Ongoing monitoring is to be an integral component of impact mitigation and conservation management within the proposed Ella Bay development and was discussed in detail in the Environmental Management Plan (Volume 5 of the EIS).

Monitoring will be conducted via a staged approach during construction and throughout operation. At the end of each stage or period of monitoring an evaluation and auditing process will be conducted to provide continuous improvement in processes and technologies. This will ensure that the proposed development does not have a significant impact on World Heritage values and the sensitive natural environment.

Specifically, consultants have recommended and discussed proposed ongoing monitoring measures, some of which are as follows.

Water quality

A surface water and groundwater monitoring program has commenced within the Development Zone (refer to Golder—Volume 4, Appendix A.2.1). This program will continue through the planning, design and construction phases of the proposed development to clearly establish base-line water quality conditions and to maintain and enhance these conditions through the use of appropriate design and management.

Other water quality monitoring recommendations from Golder (refer to Volume 4, Appendix A.2.1) include:

- auditing of erosion and sediment control implementation and a comprehensive water quality monitoring program, during and following construction;
- preparing site specific management plans for the golf course and resort operations that include a detailed assessment of nutrient requirements and sources, and ongoing monitoring of soil and water to ensure that only the fertiliser required to maintain open space within these properties to a required standard is used.

Principally, the proposed Ella Bay development will adhere to the monitoring and management requirements of the Queensland Water Quality Guidelines (2006) and the Queensland Water Recycling Guidelines (2005)

in order to maintain a high standard of water quality throughout the Site, in both the wastewater and storm-water streams. Ongoing monitoring of biodiversity and water quality is required so that any adverse impacts can be identified and responded to appropriately (*Water Quality Management Strategy* (THG), Volume 4, Appendix A.2.2). This includes, by way of example:

- eco-system status and stressors,
- water quality and flow,
- habitat (stream side and in stream), and
- biota.

For further detail on water quality monitoring refer to the *Conceptual Surface Water and Groundwater Hydrology Models Report* (Golder, Volume 4, Appendix A.2.1) and the *Water Quality Management Strategy* (THG, Volume 4, Appendix A.2.2).

Flora and Fauna

BAAM Pty Ltd in the *Terrestrial Flora and Fauna Assessment – Access Road* (refer to Volume 4, Appendix A.2.5) discuss, in detail, ongoing monitoring measures in relation to:

- exotic species invasion,
- sediment and erosion control, and
- prevention of road kills.

In addition, BAAM Pty Ltd (*Consultant Submission Response*, Volume 4, Appendix A.2.3) found that fish monitoring conducted to date has been appropriate and adequate for the Site. Further freshwater fish monitoring, however, could be conducted to improve knowledge of species present and their habitat requirements for rehabilitation purposes. It is proposed that further aquatic vertebrate data collection and long-term monitoring of water health be undertaken.

Vector Control

Mosquito Consulting Services have developed a detailed Mosquito Management Operational Plan (refer to Volume 4, Appendix A.2.13). Active components of the Mosquito Management Operational Plan, including advice to guests and treated barriers, will be activated in a timely fashion by monitoring for changes in mosquito populations on the Site. A number of parameters will be monitored, which include:

- seasonality relative to mosquitoes (generally October–May),
- Site rainfall likely to result in increased mosquito breeding,
- regional weather (rain and winds) likely to influence the regional abundance and dispersal of mosquitoes,

- mosquito breeding in ground pools,
- adult mosquito collected in light traps at standard locations within the proposed development.

Collaborative Research

Research conducted by tertiary institutions will play an integral role in providing ongoing onsite monitoring and recommending improvements in processes and technologies. For a detailed discussion about potential research areas refer to the full list of Research Proposals at Volume 4, Appendix A.3.9.

1.7.4 Submitter Issue: Town and Regional Planning

1.7.4.1 Self-sufficiency

Creating a self-sufficient community distinctly disconnected from the existing urban centre of Johnstone Shire Council is inconsistent with regional planning efforts. Existing services and facilities provided in Innisfail should be utilised to provide for any substantial permanent residential communities.

Development of business and office space should be located within the Innisfail urban centre.

Any significant educational facility would not be appropriate at this site and should be located in the Innisfail urban centre to be accessed by the greater community. The Department of Local Government and Planning support the St Peters Lutheran International School and Institute of Sustainable Development in collaboration with University of Queensland and James Cook University on sustainability and environmental research being located within the Innisfail urban centre.

EIS reference: Volume 1, Section 1.2 & Volume 2, Section 2.1.4 & 2.1.5

Submitter reference: 1/52
Dept Local Government & Planning (47)

Proponent Response

The proponent acknowledges that the North Queensland Planning Branch of the former Department of Local Government and Planning is currently in the process of developing a draft Far North Queensland (FNQ) 2025 Statutory Regional Plan. However, the current FNQ Regional Plan (2010) includes the following vision statement in regard to integrated development.

> '*The region has achieved a sustainable development environment with a balanced approach to planning and development processes that successfully integrate environmental, natural resources, social, economic and urban development needs and processes. The principles of Ecologically Sustainable Development (ESD) underpin regional development processes.'*

The proposed Ella Bay development espouses objectives and strategies of self-sufficiency and ecologically sustainable development to ensure that the project is developed and operates with minimal impact on the surrounding significant and sensitive natural environment. The proposed development also has the potential to offer substantial social, economic and educational opportunities for residents within the wider region. The proposed development is, therefore, in keeping with the processes, principles and objectives of the FNQ Regional Plan for Integrated Development.

Reducing personal car vehicle trips is crucial in mitigating environmental impacts including carbon emissions and native fauna conflict. By providing local services to meet local community needs, integrated with the proponent's transport management strategies (see Volume 2, Section 2.2.6 *Getting Around Ella*

Bay: Transport Considerations), residents and visitors will be encouraged to use alternative forms of transport in conducting day-to-day activities.

The Ella Bay Village Precinct is discussed in detail in Volume 2, Section 2.2.4. The function and purpose of the Village Precinct will be to provide basic retail and lifestyle provisions for the proposed residential and resort areas. Rather than compete with existing businesses in the local and regional area, the Village Precinct is designed to serve the immediate needs of both visiting and resident populations. As such, the commercial areas of Ella Bay will feature specialised or boutique businesses that are generated by the community's particular interests and skills.

In order to provide a completely self-sufficient community, it is also necessary that office space and accommodation be supplied for use by residents of Ella Bay. Facilitating of resident business stems from the vision of a complete community—giving residents and visitors the opportunity to complete all their daily activities within the Ella Bay Township.

In achieving the proposed development's objective of removing reliance on external community services, the population base of the Ella Bay Township need facilities to be provided on site to meet the community's education needs. The proposed St Peters Lutheran International School will provide an education facility to service the needs of both the Ella Bay and wider Johnstone Shire community. As detailed in Volume 1, Section 1.4.6 *Internal Traffic Movements*, it is envisaged that students and staff will be encouraged to access the precinct predominantly through pedestrian, bicycle, bus and buggy. For those students living outside the area a bus service, which directly links with the Innisfail urban centre, is to be provided.

The Institute of Sustainable Development is to be located onsite for easy and efficient access to environmentally significant study areas. The provision of ongoing onsite research and monitoring by leading tertiary institutions will benefit the development of Ella Bay, the wider community and the surrounding natural environment into the future.

1.7.4.2 Scale

The scale of the proposed development is inappropriate and not in accordance with the Wet Tropical Coast Regional Coastal Management Plan.

EIS reference: Volume 2, Section 2

Submitter reference: 1/52

Department of Primary Industries and Fisheries (43)

Proponent Response

The proposed Ella Bay development is considered to be of an acceptable scale in consideration of the current site context, the development footprint (which is relatively small), the use of ecologically sustainable development principles and technologies, and the significant habitat improvements through rehabilitation and revegetation. The scale is necessary to ensure construction, operational and economic efficiency. The scale and scope of the proposed development is also in accordance with the guiding principles for coastal development in the Wet Tropical Coast Regional Coastal Management Plan.

Section 2.1 of the Wet Tropical Coast Regional Coastal Management Plan indicates the policies and guiding principles for coastal use and development. The desired coastal management outcome is for the use and development of the coastal zone in an ecologically sustainable manner. In achieving this outcome the Plan contains the following principles.

- *Coastal resources are conserved, managed and restored for the wellbeing of existing and future generations.*

  The current pastoral use of the Ella Bay site has left the area to be predominantly cleared land, which is generally degraded with significant areas of exotic weed infestations within paddocks of introduced pasture grass. The proposed Ella Bay development will offer substantial habitat restoration and improvement through revegetation and rehabilitation, and includes detailed conservation and management strategies (refer to Volume 2). These strategies will ensure that the integrity of the coastal resource is improved and accessible for existing and future generations.

- *The interdependence of coastal resources is recognised and taken account in planning, developing and maintaining the coastal zone.*

  The proponent acknowledges the interdependence and interconnectedness of the surrounding coastal environment, which involves significant rainforest habitat, waterways and swales, and the Great Barrier Reef. Therefore an integrated development has been proposed at a scale that allows ecologically sustainable development principles which ensure that the proposed development impacts positively on the surrounding coastal zone to be achieved.

- *The cumulative impacts of human use are taken into account in planning and managing coastal resources.*

  Detailed mitigation measures and strategies have been developed to ensure that cumulative impacts of human use do not adversely impact on the surrounding coastal resource (e.g. terrestrial fauna and flora, waterways and the Ella Bay cove). Mitigation measures include a detailed Road Entry Strategy, Cassowary Management Strategy, Fencing Strategy, Water Quality Management Strategy and the use of ecologically sustainable development technologies (refer to Volume 2).

- *Coastal use and development is planned and managed to ensure that significant effects of activities on the natural environment are avoided, mitigated or remedied.*

  The proposed Ella Bay development has undergone a detailed planning process to ensure that all potential effects of activities of the project on the natural environment are avoided or mitigated. The Ecologically Sustainable Development (ESD) technologies (see Volume 2, Section 2.6.1 *ESD Strategy*) were selected in consideration of the surrounding sensitive natural environment. Further details on other mitigation strategies such as the entry road, the Cassowary, and water quality are included in Volume 2 and Volume 4, Appendices.

- *Development and use of the coast is to maintain and, where possible, enhance the quality of life for residents and visitors.*

  As discussed earlier, the Development Zone is currently degraded as a result of the previous use and the proposed development provides an opportunity to substantially rehabilitate the Site. By ensuring a pristine natural environment in combination with the employment and education opportunities, there is significant prospect to enhance the quality of life of residents and visitors.

- *The precautionary principle is adopted in making decisions where there is a risk of significant adverse impacts on coastal resources.*

  The precautionary principle has been used with the planning processes undertaken for the development providing strategies to ensure that all potential risks and impacts on the natural environment are considered and effectively mitigated.

Chapter 3 of the Wet Tropical Coast Regional Coastal Management Plan discusses the policies for key coastal sites. The specific desired coastal outcomes for Ella Bay (key coastal site five) are as follows.

- *The high biodiversity of the Seymour Range and Ella Bay Swamp is maintained and vegetation connectivity along the range and to the west is maintained and restored where possible, to protect habitat for significant species such as the Southern Cassowary.*

  A detailed hydrological study and risk assessment of the Ella Bay Wetland (Swamp) was conducted and found that with the proposed water quality management the development posed

minimal risk to the wetland habitat and biota (refer to Volume 4, Appendices A.2.1 & A.2.2). The proposal also includes revegetation and rehabilitation works that will substantially improve habitat quality and connectivity within the Site (refer to Volume 3, Section 3.1), Vegetation Plan—Fauna Corridor Analysis,). A detailed Cassowary Management Strategy and Fencing Strategy has been developed to ensure human and development impacts on the Southern Cassowary are mitigated (refer to Volume 2, Section 2.2.9 *Improved Natural Environment*).

- *Remnant native vegetation on agricultural land is retained through mechanisms such as voluntary conservation agreements with landholders.*

  Remnant vegetation on the Site is to be protected under Conservation Covenants and rehabilitated and revegetated along with surrounding non-remnant vegetation.

- *Infrastructure developments are designed and located so that they do not adversely affect coastal processes or scenic amenity.*

  Infrastructure requirements including transport, sewerage, water supply and energy, have been achieved with technologies that best suit the surrounding sensitive and significant natural environment, coastal processes, the local climate and the Site's scenic amenity. Detailed discussion on the visual amenity impacts of the entry road and the proposed development are included in Volume 1, Sections 1.4.4 and 1.7.5.

- *Development has minimal visual impact on the very high natural scenic landscape values.*

  The proposed development is to have minimal visual impact and is to be enforced with an extensive set of Design and Living Principles. For further discussion on the visual amenity impact of the proposed development refer to Volume 1, Sections 1.4.4 and 1.7.5.

- *The remote and pristine character of the northern section of Ella Bay is maintained (National Park and foreshore). The esplanade north of Heath Point remains in an undeveloped natural condition with no intensification of access.*

  The Proposal will not impact on the remote and pristine character of the northern section of Ella Bay and a vegetated buffer of about 300 metres is to be retained on the northern boundary adjacent to the Ella Bay National Park. As a result of Master Plan refinements and improvements, the buffer is further increased with three organic fairways of the golf course to be located adjacent to this buffer (refer to Volume 2).

  Foreshore and esplanade areas north of Heath Point will not be adversely affected. This area is not pristine or in a natural state, rather is currently degraded and utilised as a cattle property. These coastal areas are not protected but will be allocated under Conservation Covenants and protected and rehabilitated under the Proposal.

- *Tourism is ecologically sustainable and has minimal impact on scenic amenity and the remote and pristine character of the landscape.*

  Ecologically sustainable enjoyment of the area is central to the ethos of the proposed development. Ensuring that impacts of the proposed development on the scenic amenity and the remote and pristine character of the landscape are mitigated is integral in ensuring a sustainable tourism attraction.

- *A range of low impact nature-based recreation opportunities is maintained.*

  Low impact nature-based recreation opportunities will be maintained and encouraged within the Development Zone. These will include walking, cycling, swimming and environmental education programs run through the Welcome Centre.

- *Indigenous traditional owner cultural resources, values and practices are adequately recognised, respected and protected and Indigenous traditional owners are meaningfully involved in the planning for, and management of these resources.*

  The proponent, in coordination with local Indigenous communities, has developed a Cultural Heritage Management Plan to ensure that cultural resources, values and practices are adequately recognised, respected and protected.

The proposed development is consistent with the desired coastal management outcome for the Ella Bay Site in providing a development within the coastal zone in an ecologically sustainable manner. It is in keeping with the desired outcomes for the Site and is therefore of appropriate scale and in accordance with the Wet Tropical Coast Regional Coastal Management Plan.

1.7.4.3 Local Area Plans

For the proponent to seek to gain an approval at this stage—with the minute details to be contained within Local Area Plans to be submitted at some later time—does not allow the comprehensive and detailed analysis that this proposal demands.

EIS reference: Volume 3, Section 3

Submitter reference: 1/52
Johnstone Shire Council (48)

Proponent Response

A detailed Local Area Plan has been developed and is incorporated in Volume 2, Section 2.4 and Volume 4, Appendix A.2.12. The Local Area Plan forms part of a Preliminary Approval Document and a brief overview of the document is as follows (refer to the full document for details).

The Local Area Structure Plan (LASP)

The LASP, which is reproduced as Volume 4, Appendix A.2.12—Appendix B, shows:

- the extent of land for:
  - dedication to National Park and Coastal Reserve,
  - inclusion within conservation covenants, and
  - buffers between developable land and conservation,
- the extent of developable land and land use distribution,
- major elements of the road network,
- major elements of the pedestrian/cycle networks,
- major elements of the open space network, and
- the indicative location and area for:
  - on site sewerage treatment, and
  - storm-water quality management measures.

The LASP is not cadastrally based, and it is intended that proposed development be 'generally in accordance with' the LASP. In this regard, the LASP identifies the key elements of the proposed development of the Site that generally define the physical context in which urban development may occur.

The various elements of the LASP will be required to be incorporated into development proposals for parts of the land that include some or all of these elements, at the time applications for development permits for

material change of use or lot reconfiguration are submitted to the Council. Alternatively, these elements will be required to be provided as conditions of a Development Permit issued by the Council.

The Precinct Plan

The Precinct Plan (Volume 3, Section 3.1) divides the land into a number of precincts intended for urban development, and precincts that include golf course, conservation land, and other elements of the open space network. The Precinct Plan is not cadastrally based, and it is intended that proposed development be 'generally in accordance with' the Precinct Plan.

Statements of Desired Character for Precincts

For each of the precincts, the Preliminary Approval Document:

- categorises precincts in relation to their principle functional characteristics (precinct type), and broadly defines their function and role in this context;
- provides individual statements of desired character for individual precincts—these statements of character include specific statements of intent, nominate development controls and establish supplementary assessment framework tables for different forms of development.

The aforementioned items are set out in Sections 4–8 of the document (Volume 4, Appendix A.2.12) and are to be used as the principle measures to guide growth and development within individual precincts.

Ella Bay Development Code

Section 10 of the Preliminary Approval Document (Volume 4, Appendix A.2.12) sets out Code Elements that apply to proposed development within the Preliminary Approval Area, and which work in conjunction with or override the Code requirements of Johnstone Shire Planning Scheme (JSPS) as nominated.

Where the assessment of any development within the Preliminary Approval Area is against a JSPS Code/s, the assessment shall be against the version of the Code/s, as they exist at the time the Preliminary Approval comes into force and effect.

1.7.5 Submitter Issue: Visual Impact

1.7.5.1 Visual Amenity

An analysis of the impact on the visual amenity of the World Heritage Area (WHA) is required. Comparison of the value of the current rural landscape with that of a highly modified built environment.

It is noted that building height is up to four storeys and depending upon colours and finishes the buildings could be highly visible from some distance. It is considered unlikely that vegetation of sufficient height to screen the buildings could be maintained in a suburban setting. The Authority believes further consideration of the issue of visual impacts and scenic amenity is warranted. The subject area is in an elevated position in close proximity to the WHA boundary and the clearing of vegetation and the construction of buildings may impact on the scenic amenity of the WHA. Issues such as building heights, their external cladding, lighting and colour, landscape plantings, the type and placement of street lighting and the retention of trees need particular consideration.

EIS reference: Volume 4, Section 4.1.1.8 & Section 4.1.2.5

Submitter reference: 2/52
Wet Tropics Management Authority (50), Department of the Environment and Water Resources (51)

Proponent Response

The proponent has conducted an analysis of the impact of built form on the visual amenity of the World Heritage Areas. The analysis has found that, with incorporated mitigation measures, the built form of the Ella Bay Integrated Resort Proposal will have minimal visual impact on the scenic values of the surrounding World Heritage Areas:

- Existing and new vegetation will conceal the majority of the Ella Bay Integrated Resort Proposal when viewed from the sea.
- Retention of existing vegetation screening will be ensured with onsite clearing limited to 1.1 hectares and corridors protected and managed under conservation covenants.
- Extensive revegetation and rehabilitation works and new and improved vegetation corridors will further enhance natural screening.
- The revegetation and rehabilitation works throughout the site incorporating new and improved vegetation corridors and areas of the golf course will substantially improve the visual amenity of the currently degraded cattle property.
- The overall development footprint is relatively minimal, with the site to predominantly consist of vegetation and open space.

- Views and visual amenity of WHA will be ensured inside the proposal with sub-communities surrounded by existing and replanted vegetation.
- Views and visual amenity of WHA from elevated areas will be protected by revegetation and rehabilitation, material and colour controls, matte finishes and in some cases green roofs.
- Design and Living Principles will ensure the visual impact of built form is minimal and that it blends in with the natural surroundings.
- To limit the visual impact of light pollution, dark sky lighting principles will be incorporated to ensure scenic values of the site and WHA are preserved after dusk.

The master plan below indicates the extent of onsite vegetation and the location of built form.

Figure 1.7.2: Ella Bay Integrated Resort Master Plan (Volume 3, Section 3.1).

The image below indicates the location of the Ella Bay Integrated Resort Proposal viewed from the reef lagoon.

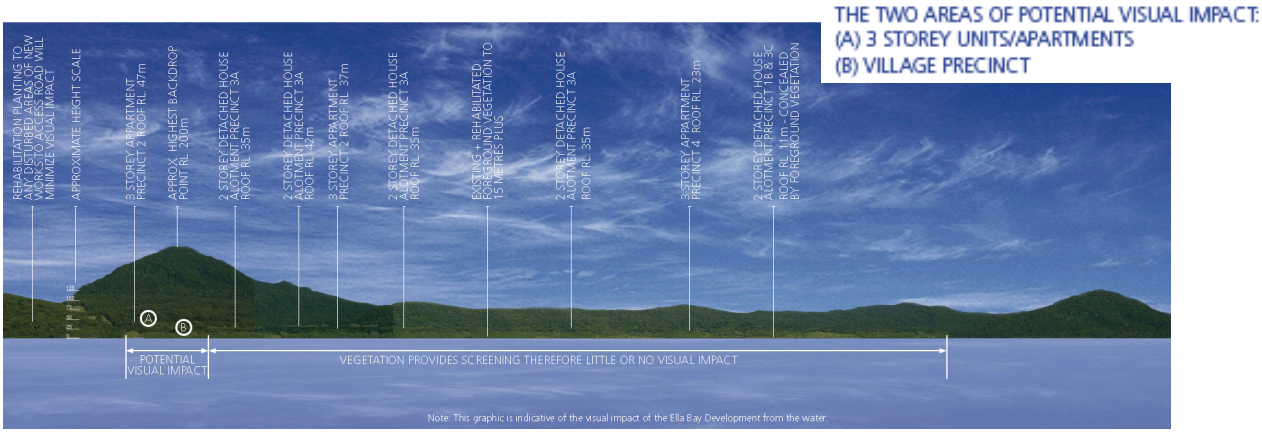


Figure 1.7.3: Location of built form and features viewing from the East.

The areas likely to be visible from the reef lagoon are confined to the South East corner as identified in figure 1.7.3. They include;

(A) the three storey units/apartments on the hill adjacent to the golf clubhouse, and

(B) the three to four storey Ella Bay Township and the three storey units/apartments behind this precinct.

(A) Three storey units/apartments on the hill adjacent to the golf clubhouse

This area includes the three storey apartments that are located on the existing grassy knoll adjacent to the proposed golf clubhouse (see figure 1.7.4). The visual impact of these buildings has been mitigated through the use of small buildings and decreased mass allowing articulation and increased surrounding vegetation (see figure 1.7.5).

Their appearance and form will also be controlled through the Design and Living Principles . These Codes cover areas such as slope analysis and height restrictions, building appearance, roof form, landscaping and colour and material schedules.

Figure 1.7.4: Area that may be visible from the reef lagoon adjacent to the golf clubhouse

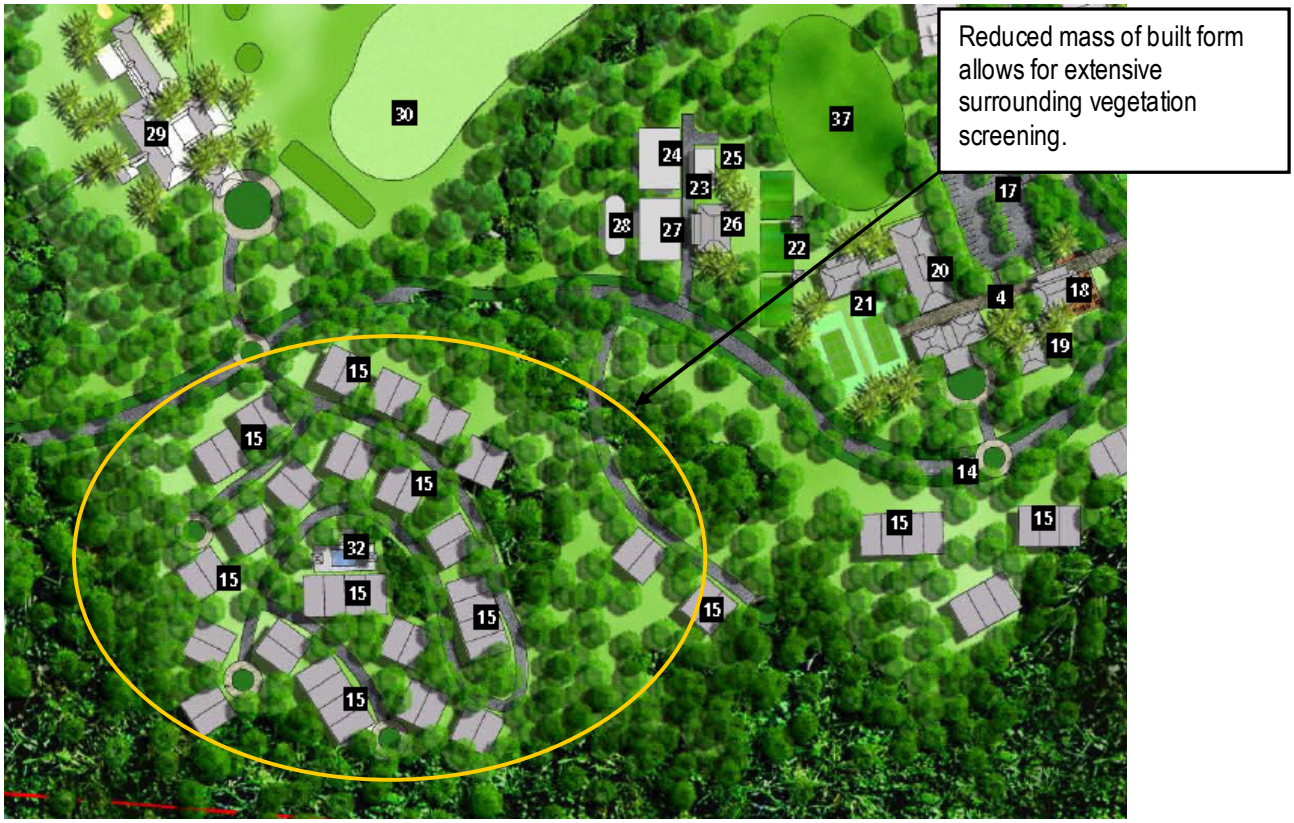


Figure 1.7.5: Three storey units on the hill adjacent to the golf clubhouse (Volume 3, Section 3.1)

(B) Village Precinct

The visual impact from the Village Precinct comprises two aspects for consideration;

(i) the central Ella Bay Township, and

(ii) the three storey apartments that align the entry road.

- *(i) the Ella Bay Township*

  The central village precinct area includes buildings of three to four stories. The visual impact of these buildings is considered to be minimal, as built form is set back considerably from the vegetated foreshore allowing a significant vegetation screen with consideration of sightlines. Also the topography of this area is relatively low (see figure 1.7.6). Only minimal roof form and limited sections of top floors will be visible from the reef lagoon.

  The Ella Bay Design and Living Principles will ensure the visual impact of the built form is minimal and that it blends in with the natural surroundings. Extensive revegetation around the precinct will further protect scenic values (see figure 1.7.7).

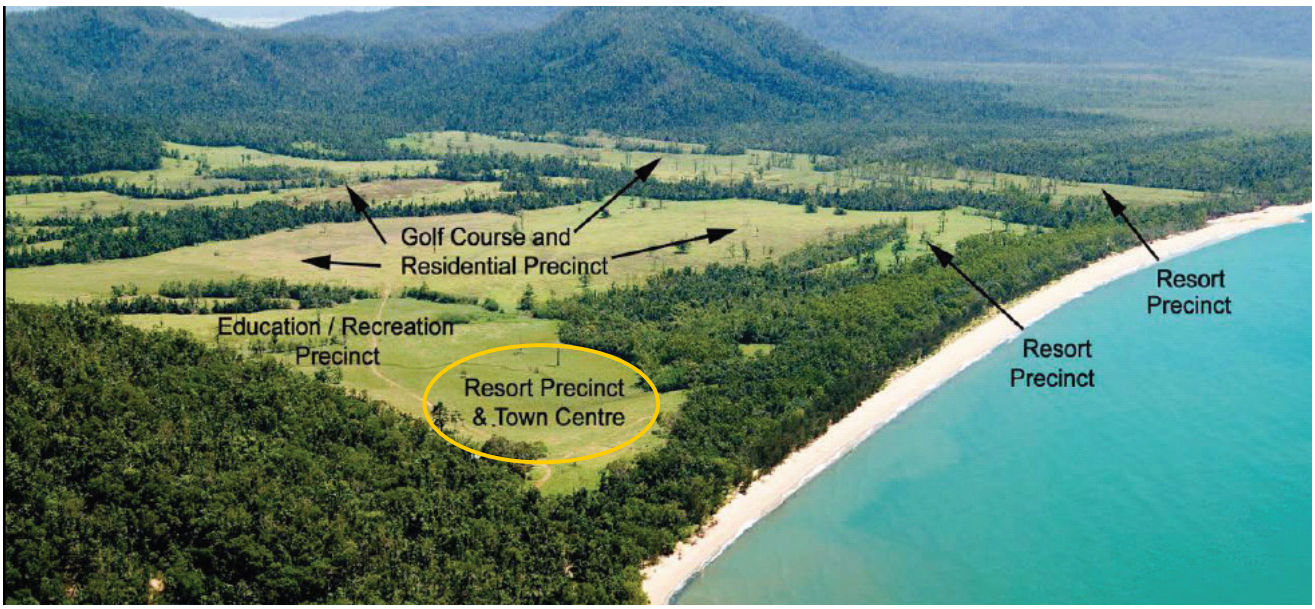


Figure 1.7.6: Aerial photograph indicating where the predominantly flat site and where the Village Precinct/Town Centre is to be located.

Figure 1.7.7: Village precinct highlighting the extent of surrounding vegetation (refer Volume 3, Section 3.1)

- *(ii) Three storey units/apartments behind the Village Precinct that align the entry road.*
  This area includes the three storey apartments that are located behind the village precinct and align the entry road (see figure 1.7.8 and 1.7.10). With improvements and refinements to the master plan from the EIS, villas on higher land in the south-east corner have now been relocated to lower areas (see figure 1.7.9 and 1.7.10).

  The visual impact of these buildings is to be mitigated through the use of small buildings and decreased mass allowing articulation and increased surrounding vegetation (see figure 1.7.9). The Ella Bay Design and Living Principles will ensure that built form is appropriate for the site and natural surroundings. The Principles will include guidelines for roof form, colours and materials

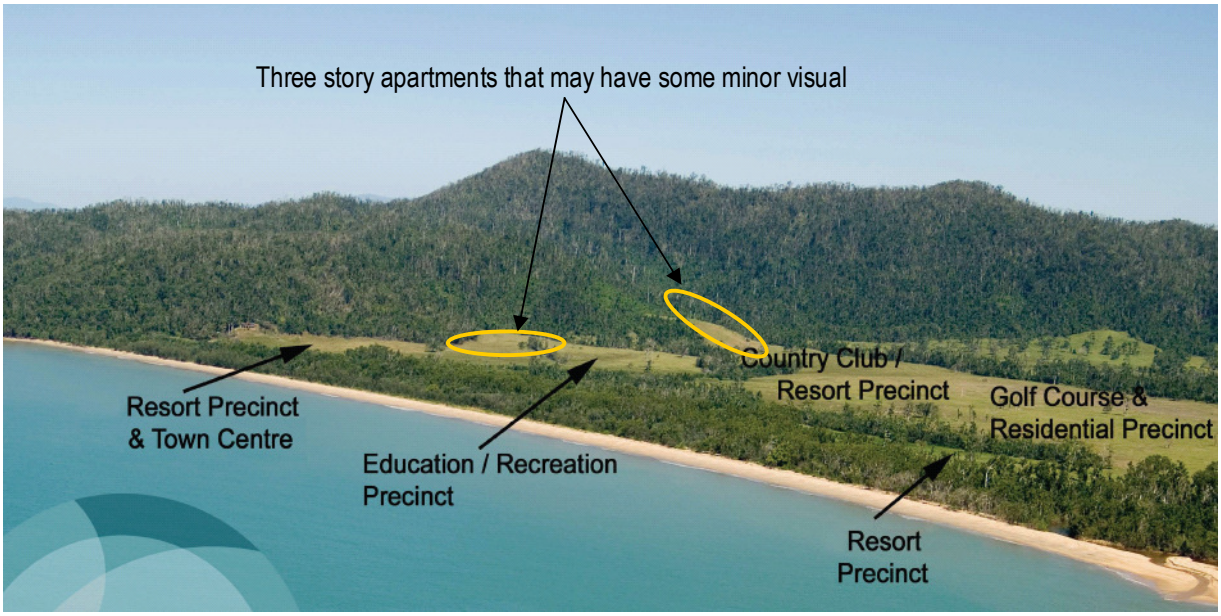


Figure 1.7.8: Aerial photograph indicating three story apartments that may have some visual impact

Figure 1.7.9: South east corner of the master plan from the EIS before units were relocated to lower areas and built form mass was reduced.

Figure 1.7.10: Refined and improved master plan showing the location of the three story dwellings behind the Village Precinct and the broken, articulated form of the units.

Visual Amenity from the Seymour Range

The visual amenity from the Seymour Range will be maintained as the dense vegetation of the Range restricts outward views. Also the limited access to these locations prevents people from reaching much of the area. The Design and Living Principles will ensure that built form is in keeping with the natural surrounds, for example dark sky lightings principles are used to limit light pollution, colours are to be in tone with the natural setting, landscaping is to consist of only endemic species to blend in with existing vegetation, and materials are to be complimentary to the natural environment.

The Design and Living Principles will ensure the visual impact of built form is minimal and that buildings blend in with the natural surroundings, thereby mitigating visual impacts upon the scenic values of the surrounding World Heritage Areas. Components of the Codes will include:

- *Slope analysis and height restrictions*

  To ensure that housing design responds to the slope of the block and reduces the visual impact of the development from the ocean.

- *Building appearance guidelines*

To ensure that building design is consistent and appropriate for the Ella Bay site and its natural setting.

- *Roof form guidelines*

  To ensure that roof form, colour and materials are appropriate for the Ella Bay site and they do not impact on the scenic value of the WHA.

- *Materials guidelines*

  To ensure that materials are in keeping with the Ella Bay character and borrow textures, tones and colours from the local area and its natural surrounds.

- *Colour palette*

  To ensure that colour schemes of built form are in tone with the natural setting and reflect the Ella Bay character. Off-whites, browns, greens, creams and greys are likely to be the main colours encouraged.

- *Landscaping guidelines*

  To ensure that landscaping is characteristic of the local environment.

For further discussion on the visual impact of the entry road refer to Volume 1, Section 1.4 *Road and Transport* and the *Access Road Strategy* (Volume 4, Appendix A.2.6).

1.7.6 Submitter Issue: Coastal Management

1.7.6.1 Erosion Prone Areas

The proponent is asked to confirm, as per previous undertakings, that the proposed development is to be setback outside the erosion prone area, which is mostly 110 m from the seaward toe of the frontal dune for the site but varies from 80 m to 400 m along this section of coastline.

EIS reference: Volume 4, Section 4.1.2.3

Submitter reference: 1/52
Environmental Protection Agency (45)

Proponent Response

It is proposed that the Ella Bay development will be setback outside the erosion prone area, however the extent and location of the erosion prone area has been reassessed by BMT WBM Pty Ltd (refer to *Coastal Management Report*, Volume 4, Appendix A.2.8).

The existing EPA designated erosion prone area width varies along the proposed development Site and ranges 110 m and 400 m (at the southern edge of the Site and the area around the outflow location of a creek that cuts across the beach at the Site respectively). The erosion prone area has been reassessed and calculated to be 200 metres north of the creek entrance and 80 metres for the remaining low-lying coastline and therefore a relaxation of the EPA designated erosion prone area is requested.

The resorts have been relocated outside of the refined erosion prone area, allowing for a setback of a minimum of 200 metres from Highest Astronomical Tide (HAT) to the north of the main creek entrance, and 110 m from HAT south of the creek entrance (see Volume 1, Section 1.7.6.2 for further detail)

Erosion prone areas are those areas of the coast and rivers that, in the opinion of the Environmental Protection Agency (EPA), may be subject to erosion or encroachment by tidal waters. The planning and management guidelines are aimed at maintaining the amenity of the beaches by retaining erosion prone areas as development-free buffer zones.

A preliminary investigation of local beach conditions and assessment of historical behaviour of the coastline, and associated features, identified aspects which may limit the width of coast vulnerable to erosion. This is particularly the case for the area around the outflow location of the creek that cuts across the beach at the Site, as it is understood that the EPA width for this area is based on generalised criteria and not site-specific coastal investigations.

As the erosion prone area width needs to be considered in the planning of the proposed development, a study undertaken by BMT WBM Pty Ltd was commissioned by the proponent to reassess the designated EPA width based on a site-specific assessment of the relevant coastal and ocean processes.

Existing Designated Erosion Prone Areas

Given the location of the Site, the Wet Tropics Coast Regional Coastal Management Plan needs consideration. The existing designated erosion prone area width varies along the proposed development site and ranges between 110 metres and 400 metres (at the southern edge of the Site and the area around the outflow location of a creek that cuts across the beach at the proposed site respectively). The designated erosion prone area width is measured inland from the seaward toe of the frontal dune, or to bedrock, where bedrock occurs continuously above Mean High Water Springs (MHWS) within this zone.

The erosion prone area map of Johntsone Shire produced by the Beach Protection Authority in 1984 (refer Volume 4, Appendix A.2.8) shows that the existing designated erosion prone area along the proposed development site is up to 400 metres wide.

Reassessing Erosion Prone Areas

The vulnerability of the coast along the proposed development site to erosion has been analysed by undertaking an Erosion Prone Area Calculation following the formula adopted by the Beach Protection Authority (BPA) and a detailed assessment of the morphological behaviour of the creek that cuts across the beach at the proposed site.

To ensure sustainability for the proposed development, the potential impacts of climate change due to the enhanced greenhouse effect have been included in the assessment of the erosion prone areas.

Erosion prone area widths are determined to cater for potential erosion of the dune system over a specified planning period. Both short-term (cyclone-related) and longer term (gradual) trends are included in the assessment together with an allowance for potential sea level rise associated with the enhanced greenhouse effect. Provision must also be included for a factor of safety on the estimates and an allowance made for slumping of the dune scarp following erosion. The following formulae was used by the Beach Protection Authority when determining the width erosion prone areas. This formulae continues to be recognised by the EPA as a reasonable method of assessing shoreline recession risk.

$E = [(N \times R) + C + G] \times (1 + F) + D$, where

E = Erosion prone area width (metres)

N = Planning period (years)

R = Rate of long-term erosion (metres/year)

C = Short-term erosion from the design cyclone (metres)

G = Erosion due to greenhouse effect (metres)

F = Factor of safety

D = Dune scarp component

The various components in the above relationship were determined on the basis of the characteristics of the individual beaches together with presently accepted practices. These are discussed in detail in the Erosion Prone Area Reassessment (Volume 4, Appendix 2.8).

Open Beach Area

After investigation of each of these variables, BMT WBM Pty Ltd determined the erosion prone area width to be as follows:

E = [(N x R) + C + G] x (1 + F) + D, where

E = (N x R) = 20 m	F = 0.4
C = 25 m	D = 6 m
G = 5 m	E = 76 m

It was therefore recommended that an erosion prone area width of 80 m be adopted for the open beach area away from the creek. The erosion prone area width is measured from the seaward toe of the frontal dune, which is usually approximated by the vegetation line.

Creek Area

The erosion prone area width for the creek area (taken from the western bank of the creek) has been determined as follows:

E = [(N x R) + C + G] x (1 + F) + D, where

(N x R) = 50 m	F = 0.4
C = 40 m	D = 6 m
G = 5 m	E = 139 m

It is therefore recommended that an erosion prone area width of 140 m be adopted for the area around the creek entrance, measured landward from the western bank of the creek.

The erosion prone area widths given on the original BPA plan are from the regional beach alignment and are relative to the seaward toe of the frontal dune, which generally would be aligned with vegetation to the north and south. Therefore, to be consistent with the widths indicated on the BPA plan, the width will need to include the distance from the western bank of the creek to the regional line of vegetation to the north and south of the creek entrance area. For the proposed development site, this distance is approximately 60 metres resulting in a total erosion prone area width of 200 metres.

The erosion prone area width of 200 metres is recommended for the shoreline area from the location where the creek reaches the beach to the northern extremity of the Site (see figure 1.7.3).

On the basis of the results of the calculations of the open beach and creek areas, the erosion prone area widths for the site were assessed. It was recommended that the erosion prone area width for the zone where the creek historically has had its entrance be reduced to 200 metres (measured from the regional alignment of the vegetation). For the remaining areas of low lying coastline at the Site, an erosion prone area width of 80 metres or to bedrock, where bedrock occurs continuously above MHWS, is recommended.

For the tidal reach of the creek, the nominal erosion prone area of 40 metres each side of the existing channel as required by EPA was considered appropriate.

The resulting erosion prone area widths for the proposed development site are presented in figure 1.7.10.

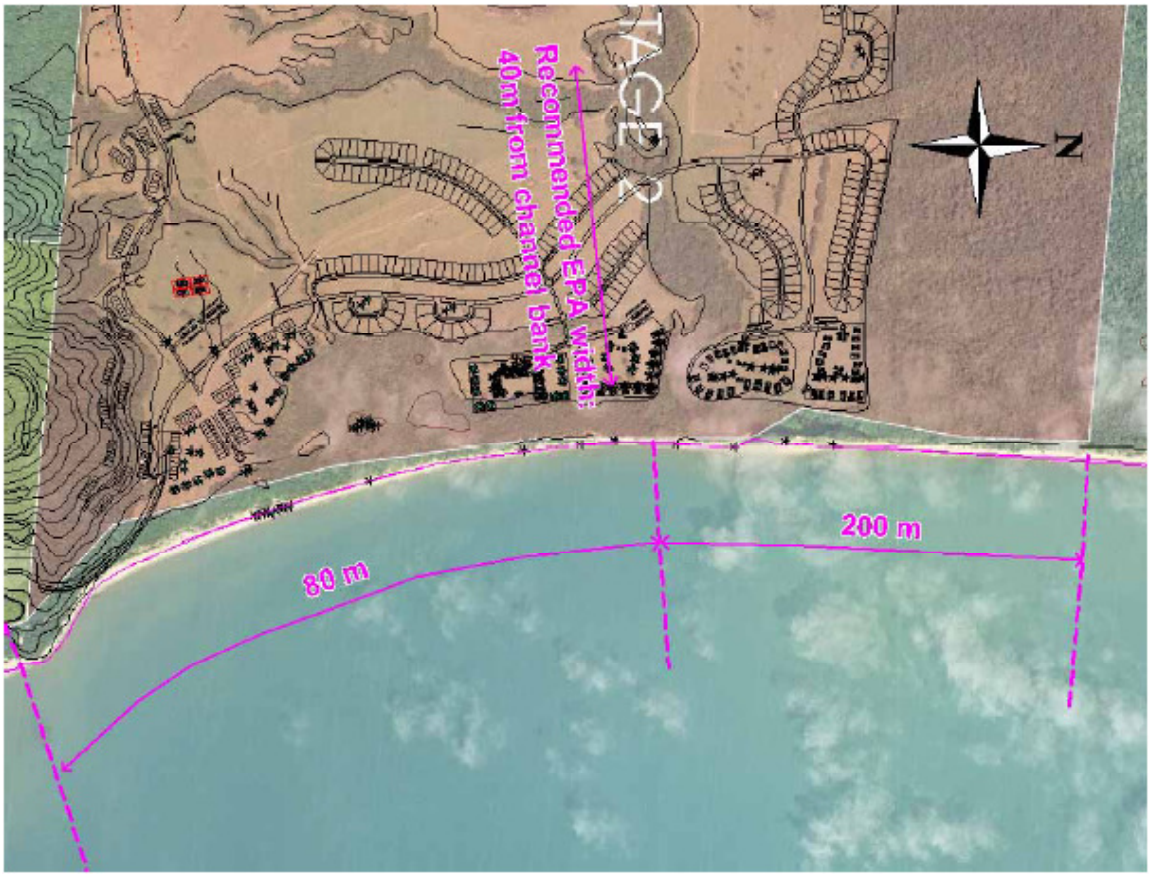


Figure 1.7.10: Erosion prone area widths for the proposed development site

Recommendation for New Erosion Prone Area Designation

On the basis of a site-specific assessment of relevant coastal and ocean processes, the existing Erosion Prone Area Plan widths for Lot 320 on N157629 at Ella Bay have been reassessed. This has included calculations using the accepted BPA formula and includes an analysis of the open beach areas as well as the area influenced by the creek and its historical entrance behaviour.

Using the accepted BPA calculation procedure, for a 50 year planning timeframe and including long- and short-term erosion, potential sea level rise due to the enhanced greenhouse effect and erosion scarp slumping, an erosion prone width of 200 m has been calculated around the creek entrance and 80 m for the remaining beach areas of the Site.

WBM therefore recommend that the erosion prone area width for the beach zone around the creek entrance be reduced to 200 metres (measured from the regional alignment of the seaward toe of frontal dune). This width is recommended for the shoreline between the historical location of the most southerly creek entrance to the northern boundary. For the remaining low lying coastline an erosion prone area width of 80 m or to bedrock, where bedrock occurs continuously above MHWS, is recommended.

The recommended erosion prone area widths to be adopted are shown in figure 1.7.10 and are defined as the distance from the seaward toe of the frontal dune or the edge of vegetation as stated in the *Coastal Protection and Management Act 1995*. The precise location of the erosion prone areas of the Site will need to be determined on the Site by a surveyor.

The Master Plan has been adjusted to reflect an erosion control setback for the Northern Resorts of 200 m and is discussed in the following section (Volume 1, Section 1.7.6.2).

1.7.6.2 Relocation of Buildings in Erosion Area

A) Resort development R3B, shown as 'Q' on Master Plan should be relocated as it appears to be completely within the erosion prone area (400 m at this location).

B) Resort development R3A, shown as 'P' on Master Plan also appears to be located mostly within the section of beach where the erosion prone area is 400 m, in which case it should also be setback.

C) The sewerage treatment plant north of R3B, shown as 'S' on the Master Plan should be relocated from the Area of State Significance in the Wet Tropical Coast Regional Coastal Management Plan (WTCRCMP), to a site outside of a remnant vegetation and the erosion prone area.

The proponent is asked to provide an overlay of the erosion prone area with respect to the revised Master Plan which shows development setback outside of the erosion prone area

EIS reference: Volume 4, Section 4.1.2.3

Submitter reference: 1/52

Environmental Protection Agency (45)

Proponent Response

The reassessment of the erosion prone area has recommended the width for the erosion prone area north of the creek entrance be reduced to 200 metres (measured from the regional alignment of the seaward toe of frontal dune) (see Volume 4, Appendix A.2.8). It is in this area two that resort parcels are located, as identified in figure 1.7.11 (identified as R3A and R3B in the Master Plan as included in EIS).

Figure 1.7.11: North-east corner of the proposed development (full plan available at Volume 3, Section 3.1)

These resorts have been relocated and redesigned so as to be located outside the refined erosion prone area, allowing for a setback of a minimum of 200 m from the Highest Astronomical Tide (HAT) to the north of the main creek entrance, and 110 m from the HAT south of the creek entrance. These setbacks are depicted along the foreshore in figure 1.7.12.

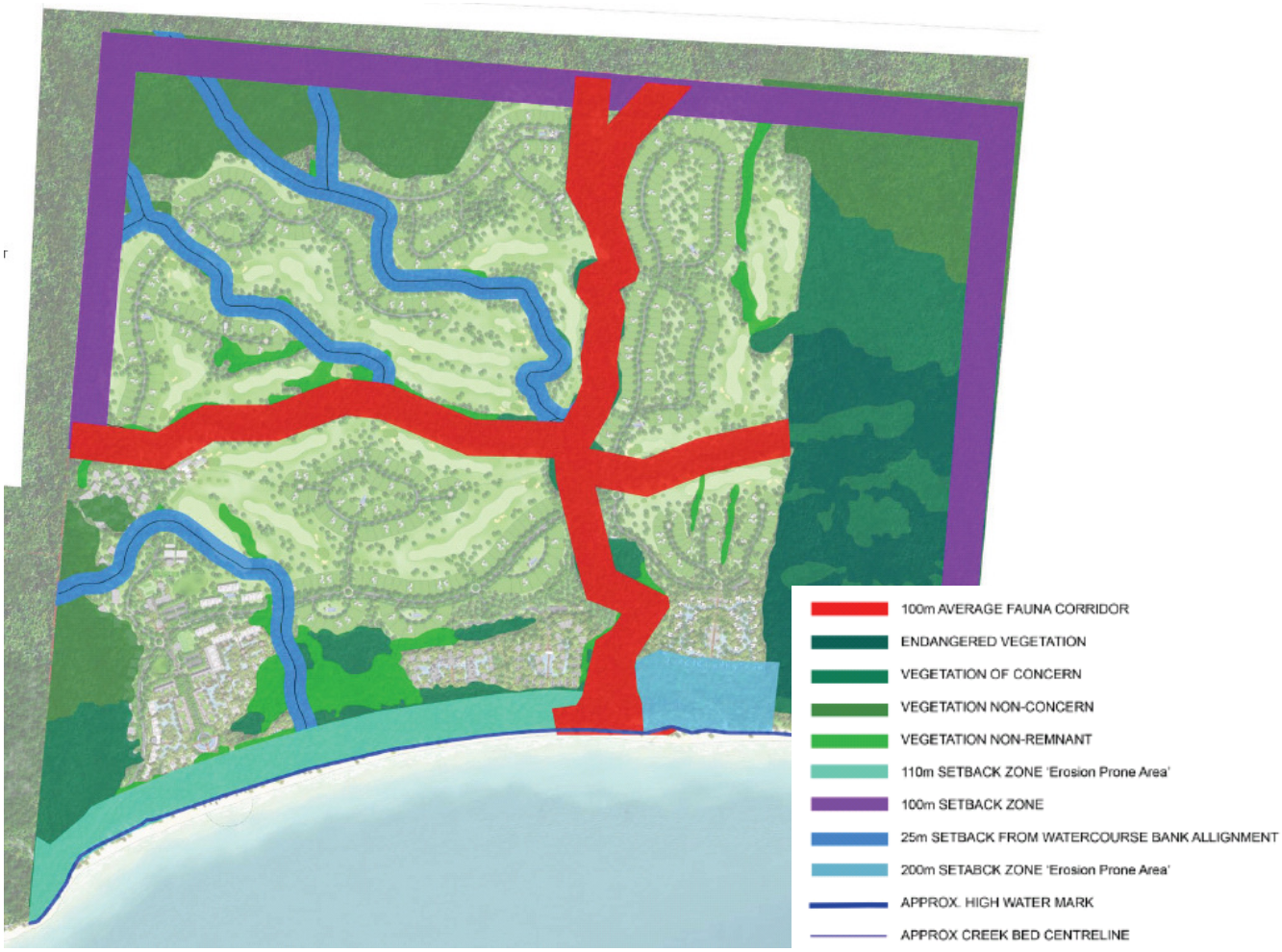


Figure 1.7.12: The proposed development indicating setbacks of 200 m from the northern coast, and 110 m from the central and southern coast (full plan available in Volume 3, Section 3.1)

The sewerage treatment plant, identified to the north of resort development R3A on the pre-refined Master Plan, has been relocated from the Area of State Significance (in the Wet Tropical Coast Rerional Coastal Management Plan), to sites outside of a remnant vegetation and the erosion prone area. Sewerage treatment has been decentralised throughout the Proposal and so a number of infrastructure and sewerage treatment nodes are located on the proposed development site. These are depicted in figure 1.7.13 as light green circles, and are located well back from the erosion prone areas.

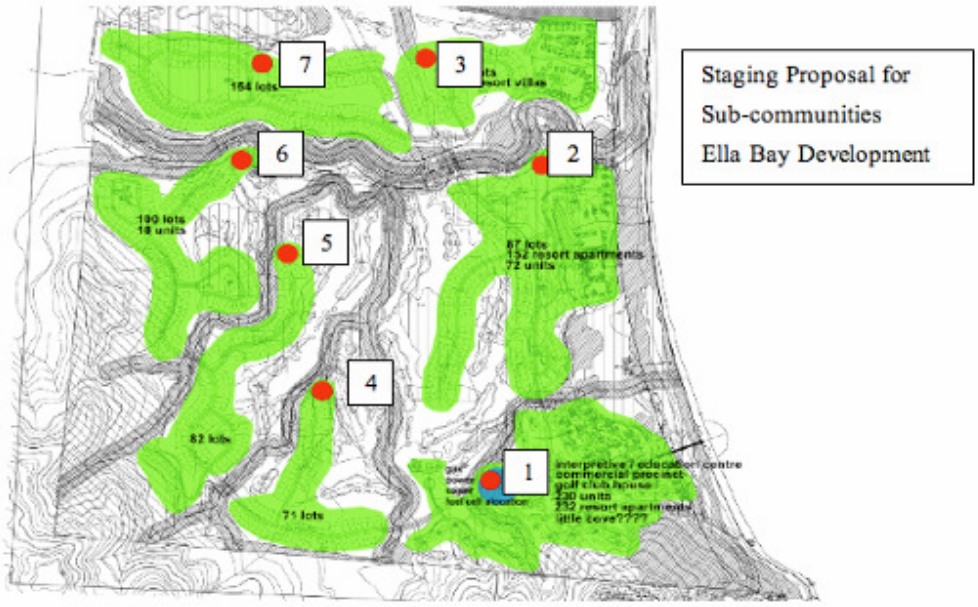


Figure 1.7.13: Location of sewage treatment plants

1.7.7 Submitter Issue: Emergency and Hazards

1.7.7.1 Bushfire Hazard

The Master Plan indicates that the Site has a low bushfire hazard rating according to SP 1/03 and further indicates that there will only be a fire break distance of 3 m around buildings. This plan will need to be endorsed by Queensland Fire and Rescue Services (QFRS) before NRW will consider the plan.

The fire ecology of the non-rainforest vegetation communities should be examined to inform the proposed development of appropriate fire management strategies.

EIS reference: Volume 5, Section 5.4.5

Submitter reference: 2/52
Department of Natural Resources and Water (42), Department of Primary Industries and Fisheries (43)

Proponent Response:

It should be acknowledged that the majority of the proposed development is located in cleared areas and would be setback from remnant vegetation.

A site specific assessment of the bushfire hazard using the methodology in State Planning Policy (SPP 1/03), *Mitigating the Adverse Impacts of Flood, Bushfire and Landslide* indicates that the vegetation on the Site poses a low fire danger (see table 1.7.1). This is predominantly due to the presence of intact rainforest and the physical aspect.

Component	Rating	
Aspect	North to east	= 1
Slope	Steep hills 20-300	= 4
Vegetation	Intact rainforest	= 0
Total		5
Bushfire Hazard Rating		**Low**

Table 1.7.1: Bushfire hazard assessment

This rating of 'low' does not require setbacks or use of fire resistant building materials, other than specified in the *Building Code of Australia*. However, fuel reduction zones of minimum 3 metres will be established around buildings. This will generally consist of constructed surfaces, landscaping or slashed understorey. Landscape plantings will use local endemic species that are naturally fire resistant. This plan is to be finalised in cooperation with the Department of Fire and Rescue Services and the Environmental Protection Agency (EPA).

While the vegetation on the site is predominantly intact rainforest, some of the non-rainforest vegetation communities on the Site and within the adjacent World Heritage Area (WHA) and National Park require fire to maintain their viability. How this will be achieved with the infrastructure interests that are proposed to be developed at this Site is yet been examined. It is proposed that the fire ecology of the non-rainforest vegetation communities will be examined to inform the development of appropriate fire management strategies.

It should also be noted that adherence with the Ella Bay Design and Living Principles will ensure residences use appropriate types of fire resistant endemic vegetation for landscaping.

1.7.7.2 Storm Surges

Coastal hazards, such as storm surge, could have a significant impact on proposed development areas in the low-lying coastal side of the Site. The basement car park refuges proposed would be unsatisfactory in such circumstances.

EIS reference: Volume 4, Section 4.12

Submitter reference: 1/52
Environmental Protection Agency (45)

Proponent Response

The storm surge level has been calculated for a 500 year Average Recurrence Interval (ARI) storm tide level with green house allowance to be 2.64m AHD (refer to the *Erosion Prone Area Reassessment* (WBM) – Volume 4, Appendix A.2.8). The majority of the development is not likely be affected as it is proposed to be above RL 3.00, with the exception of a small portion of resort areas as indicated in figure 1.7.7

Controlled management of potential storm surge inundation through tested construction techniques is proposed for the resort parcels that may occur below the affected areas.

To minimise disturbance the existing ground plane, basement and retaining walls will be used to lift the habitable floor area above the prescribed level and act as barriers for further inundation into the proposed sites. Balconies and terraces will be suspended over the natural ground levels to visually soften the transition from the built form to natural grade and allow uninterrupted fauna movements underneath. Refer to the figures 1.7.7 for examples.

The Welcome Centre will act as a place of refuge and will be designed to be able to withstand cyclone conditions and will be setback outside of the potential storm surge zone (see figure 1.7.14). It will also act at the principal command and control centre to manage emergency responses.

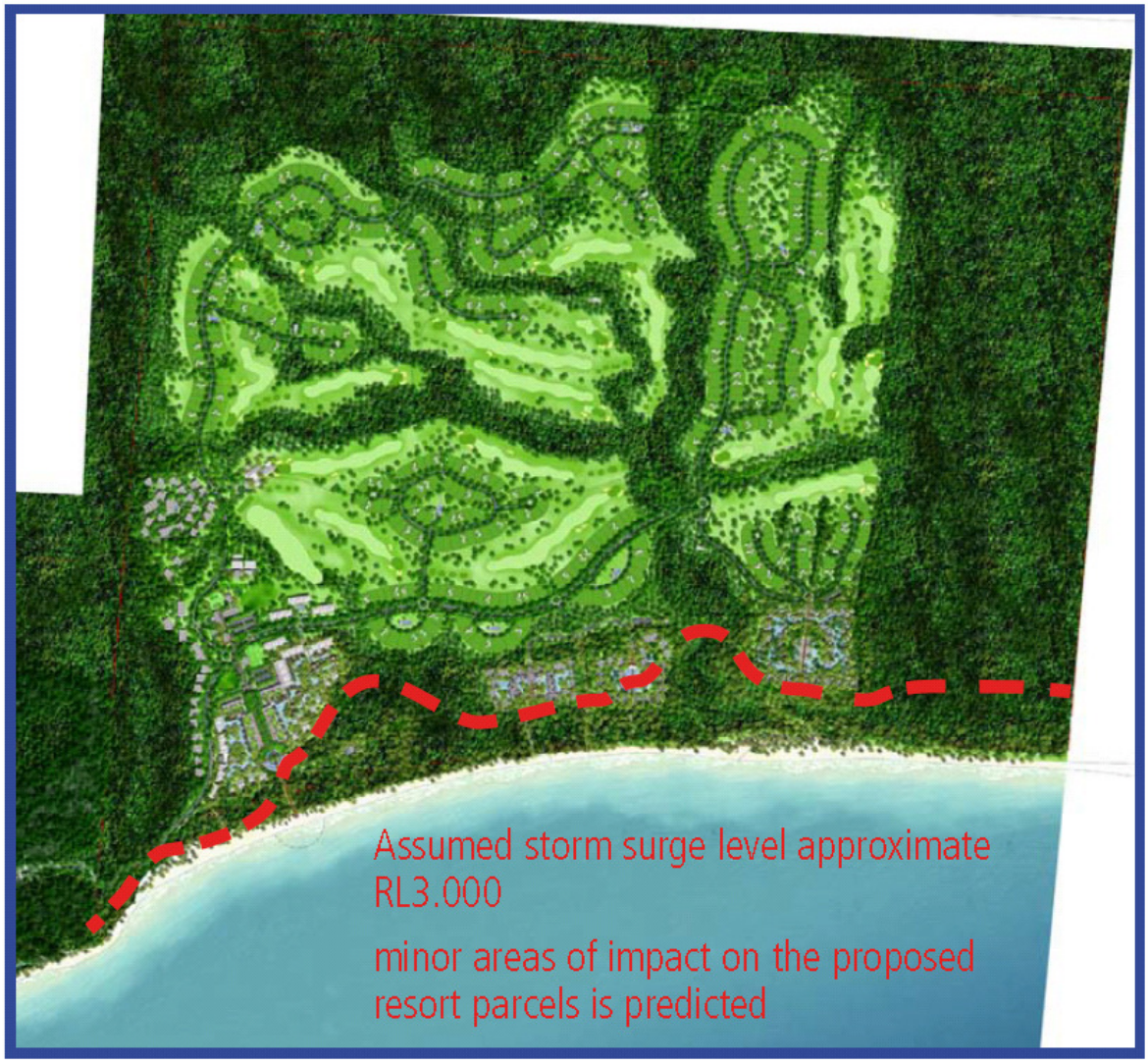
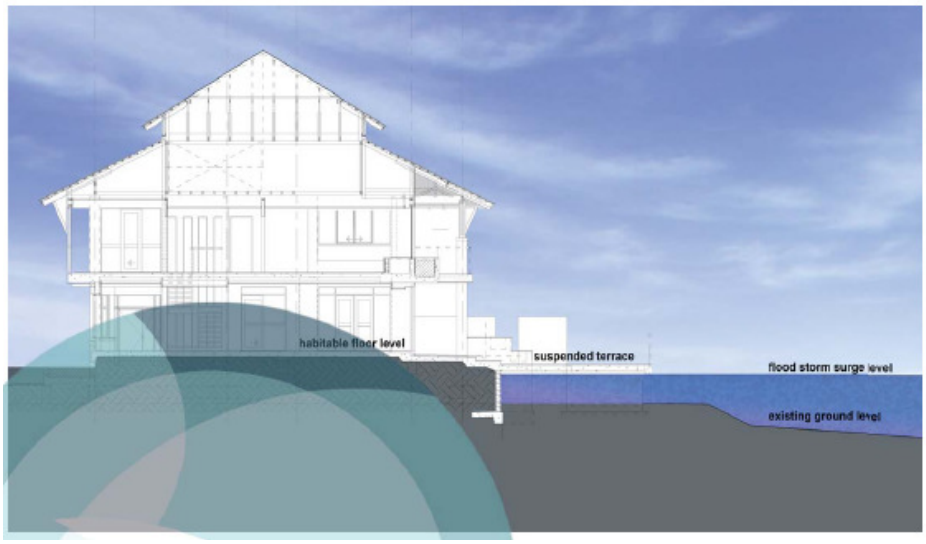


Figure 1.7.14: Master Plan indicating potential storm surge zone



Figures 1.7.15–1.7.18: Construction techniques for potential flood/storm surge zones

1.7.7.3 Evacuation

The single indirect access route, in the case of an emergency (for example cyclone and tsunami) may be inadequate.

EIS reference: Volume 3, Section 3.2.5

Submitter reference: 4/52

C. Randell (4), J Dall (6), Petition 1 (37), Petition 2 (38)

Proponent Response

A single access road is considered to be sufficient in the unlikely case of an emergency evacuation. The risk of total road blockage is minimal as the road is proposed to be two lanes and designed with high quality engineering. Helicopter and boat access would also be available in a situation that required evacuation. In the event of road blockages or landslides, capabilities to quickly clear the road will be available.

In addition, the Ella Bay Integrated Resort proposal is a highly self-sufficient development that provides onsite refuge in the case of storm surge and cyclone emergency situations. The proposal incorporates its own water supply, power generation, solar PV's, gas and health and food facilities and can therefore remain functional in the case that under ground services fail.

In preparation for the possibility that the Site may require evacuation, emergency procedures will be further investigated as part of an Emergency Management Plan, to be finalised during the detailed design phase. A summary of the principles and direction of the proposed Emergency Management Plan and risk assessment is as follows.

Emergency Management Plan

Strategies and protocols are being developed to take emergency situations and hazards into account. The general approach will be to follow multi-hazard risk assessment procedure. Details of the implementation arrangements for dealing with emergency and hazards will be carried out during the operational phase of the development plan.

A detailed risk assessment will be completed for:

- construction during the staging process
- flooding
- tropical cyclone storms
- fires—
  - bushfires

- house fires
- commercial fires

- accidents
- acts of terrorism
- civil disturbances/disorder.

Co-ordination plans with responsible authorities such as the police, fire and ambulance services as well as SES Volunteer Groups will also be developed. This co-ordination will ensure that Ella Bay has an integrated emergency response capability. Regular reviews of these plans will be carried out by the Ella Bay Body Corporate along with organisations/people that have delegated responsibility for such matters.

Communication and educational awareness strategies will be developed with regard to emergency and hazard situations. These strategies will be aimed at:

- residents and their guests,
- visitors including day visitors, people and families coming on holiday at the resorts,
- staff employed at Ella Bay commercial and retail outlets as well as at the resorts, and
- construction staff employed by contractors during the staging process.

A variety of communication means will be adopted, including using the:

- Welcome Centre Induction process for all visitors to Ella Bay (this process is described in detail in Volume 2, Section 2.2.3),
- communal facilities to hold community meetings, practise sessions and demonstrations on how to respond to and manage emergency situations,
- community online portal to disseminate policies and procedures with regard to emergencies and hazards, and
- Ella Bay communications network to alert people staying in residences, resorts, leisure facilities such as the golf club or tennis courts or visiting the Village Precinct and Welcome Centre—such a network will provide alert messages to warn of any emergency situation arising via audible speakers or direct to telephones and computer stations.

The Welcome Centre will act as a place of refuge and will be designed to be able to withstand cyclone conditions. It will also act at the principal command and control centre to manage emergency responses.

Effective security management is recognised as a necessary safety tool in helping identify, warn and/or defuse possible emergency or hazardous situations. Security personnel would be employed at the resorts and would cover the communal facilities such as the golf club and tennis courts. Security personnel would

also be expected to cover the Village Precinct and Welcome Centre on behalf of the Ella Bay Body Corporate. Security management would also be enhanced by security cameras to monitor people's activities.

A fire appliance (light truck) will be available to the Ella Bay community and be maintained on Site to be available on a 24-hour basis, seven days a week. All residential precincts, resorts, retail and commercial outlets will be fitted with fire hydrants that conform to fire regulations. Water storage at each residence will be mandatory through the use of the water tanks for potable water.

Regular drills, testing of procedures, warning systems and prevention schemes will be carried to ensure that Ella Bay community will be able to respond to individual situations as and if they arise.

1.7.8 Submitter Issue: Climate

1.7.8.1 Tourist Comfort

The location of Flying Fish Point as a suburb of Innisfail experiences over 300 days of cloud cover and/or rain a year (50 clear days and 150 days rain per annum—mean values from the Bureau of Meteorology). The annual rainfall of the Innisfail district exceeds 3500 mm (+3.5 m) per annum. The local climate is significantly different from Port Douglas and Cardwell (sites for similar resort and golf course developments as the project proposed). This climate would not encourage tourism.

EIS reference: Volume 4, Section 4.2

Submitter reference: (21/52)
D & M Lowe (2), E Bock (11), B Harvey (12), R Eastment (13), J Beasley (14), CAFNEC (20), Performa Letter (15 submissions) (17,22-35)

Proponent Response

The proponent acknowledges that the subject Site is set in tropical climatic conditions, and the region experiences periods of high rainfall. Tourism Tropical North Queensland (2007) state that there are generally only two seasons in the Wet Tropics, 'the green' and 'the dry'. 'The green', generally occurring between November and May is characterised by tropical down pours with between 75% to 90% of the annual rainfall recorded.

It is expected that the peak period for tourist activity will be the dry season. However, Tourism Tropical North Queensland acknowledges that the high rainfall periods of the wet season do not generally interfere with day-to-day activities.

The average annual rainfall map for 1960 to 1990 indicates that a number of coastal regions along the popular tourist pathway Cairns-to-Cooktown also experience very high rainfall. The Tully–Mission Beach area has the highest rainfall of anywhere on the Australian coast, with an annual average of over 4000 mm, and average wettest quarter (January–March) of over 2000 mm. The average number of wet days per year is over 150. This area has been recently established as a popular tourism and residential destination.

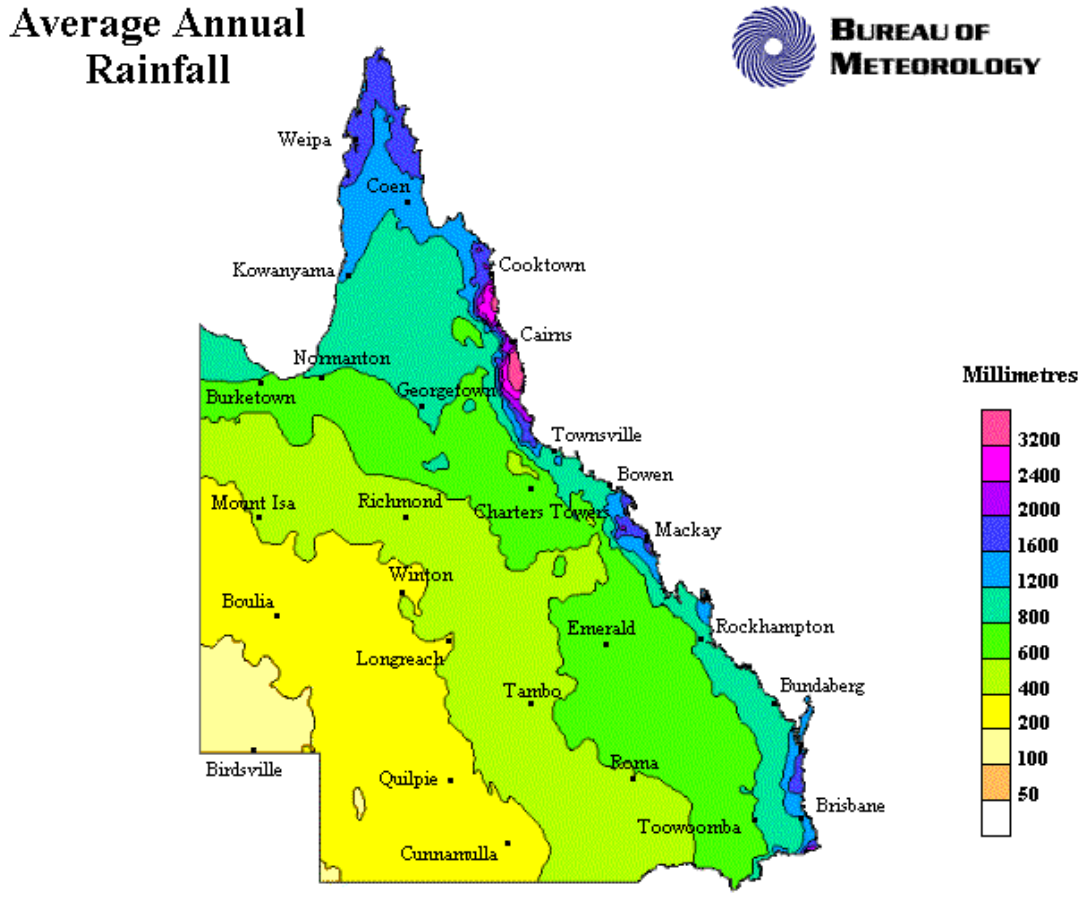


Figure 1.7.19: Average Annual Rainfall based on 30 year climatology (Bureau of Meteorology)

People are attracted to these pristine regions in part for their warm to hot tropical climates, for their natural environments, and for their proximity to World Heritage listed rainforests and the Great Barrier Reef World Heritage Area. As much of our continent continues to experience extended dry periods, people are more inclined to seek wetter and greener locations. Tourism Tropical North Queensland has described the Cairns to Townsville strip as 'The Great Green Way' and the rainforests that characterise this region require high rainfall.

Dwellings in the proposed Ella Bay development are to be designed following strict 'green architecture' principles, using climate responsive architectural design to effectively manage the effects of climate and create natural ventilation. Dwellings are also to incorporate air-conditioners and outdoor covered areas to provide living spaces for all seasonal conditions.

1.7.9 Submitter Issue: Body Corporate

1.7.9.1 Management Structure

It is considered that the monitoring and enforcement of the environmental conditions may prove difficult, given the multiple levels and complex nature of the management structure. This issue is further complicated by the likely changes in people's perspectives and values over time. Body Corporates are elected bodies and as such it is difficult to identify where the responsibility and accountability for environmental compliance or the ongoing development of conservation and protection policies might lie in the future.

EIS reference: Volume 3, Section 3.4.4

Submitter reference: 2/52

J Dall (6),Wet Tropics Management Authority (50)

Proponent Response

The proposed structure and responsibilities of the Ella Bay Body Corporate is identified in figure 1.7.20 below and is discussed in detail in Volume 2, Section 2.3.2.

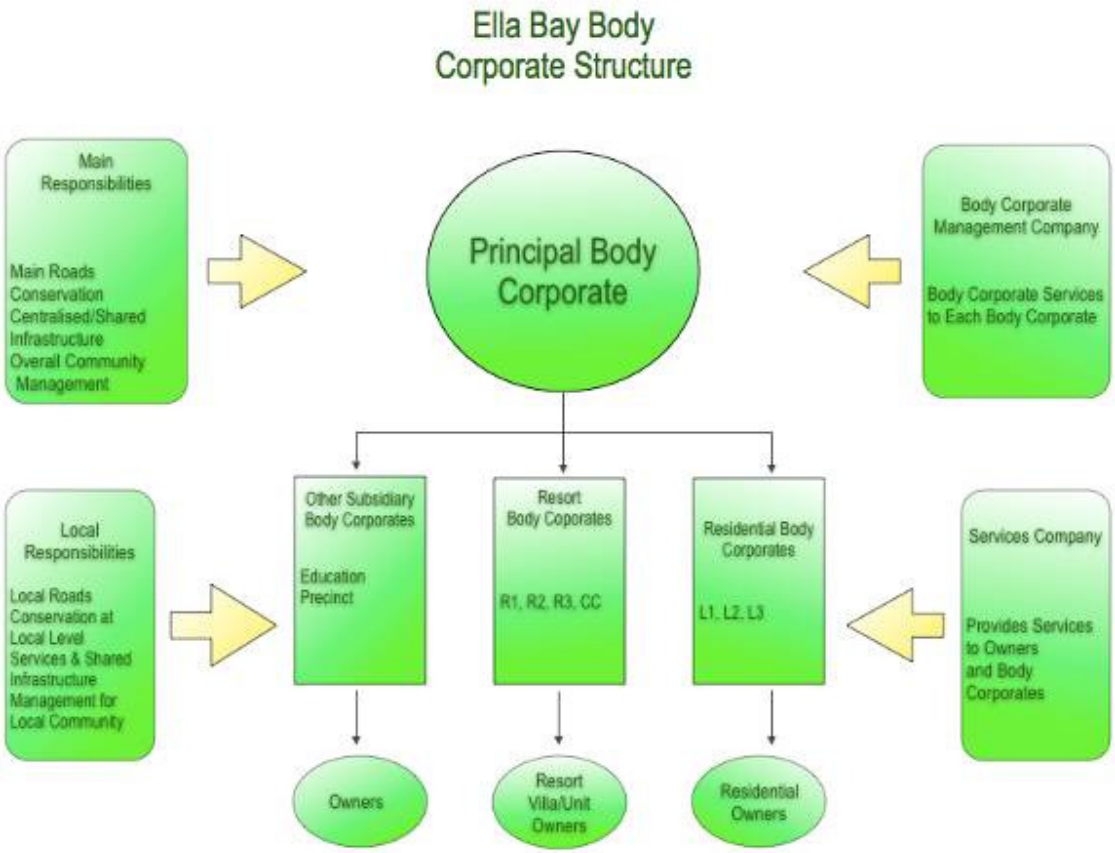


Figure 1.7.20: Ella Bay Body Corporate Structure

Community title and body corporate entities are well established and proven forms of governance that are regulated by law under Queensland State and Federal statutes. Adopting a body corporate solution should provide a proven approach to managing and solving often complex and inter-related problems (such as environmental compliance or the ongoing development of conservation and protection policies). The alternative approach would be an elected town council solution that would raise several issues concerning its establishment and integration with existing councils in the area. Further multiple ownership does not in and of itself prevent effective management of complex and inter-related problems nor does it mean a reduction in accountability or responsibility—providing these are properly and comprehensively defined. These are normally defined within a body corporate entity. Large, master planned communities are now more common and they generally adopt this strategy for example, this is the approach used at the award winning EcoVillage at Currumbin Valley, south-east Queensland.

Responsibility for compliance with legislation concerning the environment will be the responsibility of the Ella Bay Body Corporate. This entity will be the Principal Body Corporate and it will also be responsible for ensuring adherence to by-laws established to protect Ella Bay and its environment. Professionally accredited service companies are widely available to support the day-to-day management of body corporate entities.

A transitional arrangement during staging and operational works will be put in place between the developer and the Ella Bay Body Corporate. As residential precincts are created, one option will be to establish subsidiary body corporate entities for each precinct that would take direct responsibility for its own area of concern. Body corporate entities for the resort areas and the village precinct will also be created. Representative members will be elected to also sit on the Principle Body Corporate.

Thereafter, it would be likely that the Principal Ella Bay Body Corporate will take overall responsibility for further development of conservation and protection policies. These policies will be based on the various building and design codes established to regulate such matters. The range and scope of several such policies are set out in Volume 2.

1.7.10 Submitter Issue: Land Tenure

1.7.10.1 Site Road Easements

There are two gazetted but unconstructed road easements that join the coastal esplanade with the National Park and World Heritage Area (WHA) to the west. The existing road tenure provides the only guaranteed public access across the freehold land from the coast to the WHA in the west. The Authority believes existing public access needs to be assured. One way this could be achieved is by gazetting any proposed vegetation corridors or foot access tracks as public reserve.

EIS reference: Volume 3, Section 3.4.1

Submitter reference: 1/52

Wet Tropics Management Authority (50)

Proponent Response

It is assumed that the submission relates to the existing east-west road tenure alignment approximately dissecting the proposed Ella Bay Site in half. It is proposed that public pedestrian access will be provided through the site to the World Heritage Areas in the west via vegetation corridors recognised as Conservation Covenants. Discussions with Johnstone Shire Council have been conducted to facilitate the process. In principle Johnstone Shire Council has no concerns with the proposed access arrangements.

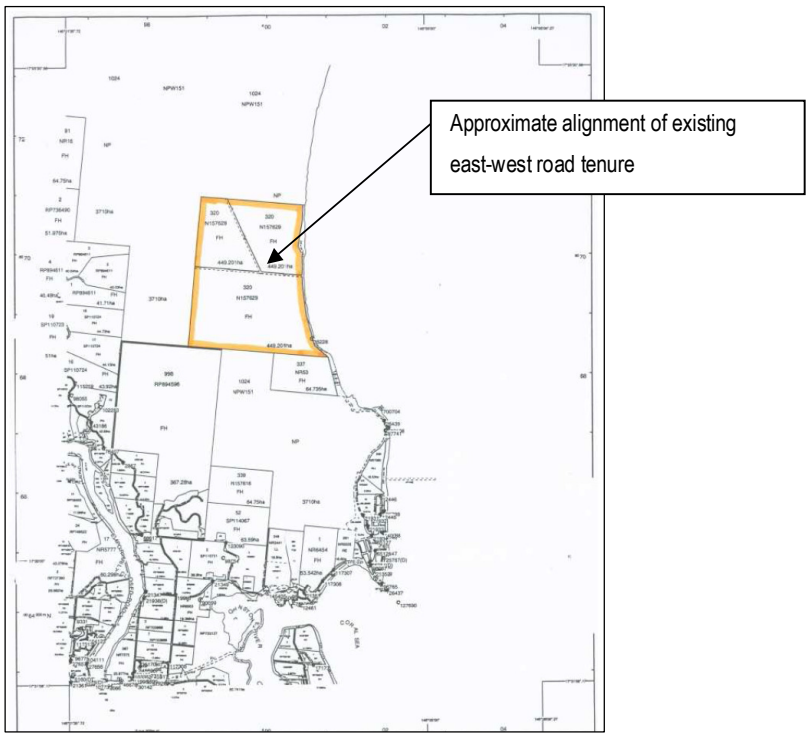


Figure 1.7.21: Queensland Government SmartMap indicating the approximate road tenure alignment