21 July 2016

Hummock Hill

Mr Barry Broe
The Coordinator-General
Department of State Development Infrastructure and Planning
Level 12 Executive Building
100 George Street
Brisbane, QLD, 4002

Dear Sir,

Re: Development of Hummock Hill Island

In accordance with Section 35C of the State Development and Public Works Organisation Act 197, we herewith apply to the Coordinator-General to evaluate the environmental and other effects of changes to the development proposal that have been made to obtain Commonwealth approval under the EPBC Act.

The enclosed application describes:

- The proposed changes to the project
- Reasons for the proposed changes
- An evaluation of the environmental impacts associated with the requested changes, including an evaluation of MSES impacts
- Changes to the statutory approvals required due to recent changes to legislation
- A review of the CG's conditions that are either outdated (due to legislative and policy changes) or because of duplicate legislation
- Requested changes to the CG's Conditions as a result of all of the above
- Information to assist the assessment of a preliminary approval application by Gladstone Regional Council (GRC).

The Hummock Hill Island Development, in its evolution through the planning and environmental approvals process (State and Commonwealth), has been made available for both government and public scrutiny on at least 7 occasions.

We would appreciate your assessment of the modified project and, provided that the changes are acceptable, issue a Change Report allowing the proposal to proceed.

We confirm that payment of the Application fee of $10,519 will be made by direct bank deposit to the following account:

- Account Name: Department of State D
- Account No: 10007096

We would be pleased to provide you with any further information you may require in support of this application.

Yours sincerely,

John Kelly
Project Director
Pacificus Tourism Development
Eaton Place Pty Ltd
Phone: 0413038382 ***E-mail: jkelly@dockside.com.au***

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Pacificus Tourism Project

Change Report Application

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1. Introduction

Eaton Place Pty Ltd (Eaton Place) holds a holds Special Lease (SL) 19/52155 over Lot 3 on FD841442 on Hummock Hill Island (HHI), an area of 1,163 ha. HHI is located 30km south-east of Gladstone in Central Queensland. The SL gives the proponent the right to develop the land for business, industrial, commercial, residential, tourism and recreational purposes. Eaton Place proposes to construct a tourist and residential development, including all associated infrastructure, services and facilities, within the SL. On 17 November 2006 the Hummock Hill Island Development (HHID) project was declared to be a 'significant project for which an environmental impact statement (EIS) is required' pursuant to section 26(1) (a) of the *State Development and Public Works Organisation Act 1971* (SDPWO Act).

A Coordinator-General's (CoG) report for the HHID project, was issued in February 2011. The master plan for HHID is shown in Figure 1.

Since then, Eaton Place has made a slight reduction to the development footprint, relocated some components of the development within the existing development footprint and made some additional commitments to management and mitigation measures. These changes were in response to issues raised by the Commonwealth Department of the Environment (DotE) in the course of an assessment (EPBC 2012/6643) of the proposal under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The proposal was renamed the Pacificus Tourism Project (PTP) (the project) for the Commonwealth environmental assessment process. The PTP master plan is provided in Figure 2. The revised project was approved by the Federal Minister for the Environment on 26 November 2015. The EPBC Act Decision Notice and conditions attached to the approval are included in Appendix 1. More information on the EPBC Act assessment is provided in Section 2.

As some changes were made from the HHID project, which is covered by the 2011 CoG's report, to the PTP proposal which was approved by the Federal Minister for the Environment, Eaton Place requests that the CoG assess the proposed changes and, provided that the changes are acceptable, issue a Change Report allowing the proposal to proceed consistent with what was approved under the EPBC Act. This report supports this request pursuant to Part 4 Division 3A of the SDPWO Act.

Section 35E of the SDPWO Act states that the notice of proposed change must:

- "Describe the proposed change and its effects on the project
- State the reasons for the proposed change
- Include enough information about the proposed change and its effects on the project to allow the Coordinator-General to make the evaluation."

In addition, and given the time that has lapsed since the HHID CoG's report was issued in February 2011, the Office of the Coordinator General has requested that the proponent provide:

- An evaluation of the presence of matters of state environmental significance within and in proximity to the project and potential impacts on these matters associated with the requested change

- An update on the approvals required for the proposed development, including whether the requested change results in additional approval requirements
- A review of conditions that are either outdated (due to legislative and policy changes) or duplicate legislation
- Supporting information to assist assessment of a preliminary approval application by Gladstone Regional Council (GRC).

This report therefore describes:

- The EPBC Act assessment process for the project (Section 2)
- The modifications to the HHID proposal that were made to meet the requirements of the DotE and gain environmental approvals under the EPBC Act (Section 3). These are the changes which are requested to be evaluated in this change report request
- An evaluation of the environmental impacts associated with the requested changes, including an evaluation of MSES impacts (Section 4)
- Changes to the statutory approvals required because of recent changes to legislation (Section 5)
- Requested changes to the CoG's Conditions as a result of all of the above (Section 6).

Figure 1 - Hummock Hill Island Master Plan

JOB NO: EAT00001 20/09/2010 A-MP-00-02(B) SCALE: NOT TO SCALE

HUMMOCK HILL

EATON PLACE Pty ltd

ML Design

EATON PLACE PTY LTD

PACIFICUS TOURISM PROJECT

MP-001-E CONCEPT MASTER PLAN

SCALE 1:20000 @ A3

APPROVED FOR ISSUE: BT

PROJECT NO: EAT00001

MLDesign

2. EPBC Act Assessment

2.1 Assessment Process

On 13 January 2006, the project was determined to be a controlled action likely to affect matters of national environmental significance under section 75 of the EPBC Act. On 17 November 2006 the HHID project was declared to be a 'significant project for which an EIS is required' pursuant to section 26(1) (a) of the SDPWO Act. Under a bilateral agreement with the Australian Government, the CoG's report was used by the Commonwealth Minister for the Environment to assess the controlled action for the purposes of the EPBC Act.

The CoG evaluated the EIS for HHID and concluded that the project may proceed in accordance with the CoG's Report of 28 February 2011. Following publication of the CoG's Report, the Proponent had meetings with DotE to discuss outstanding issues related to impacts on Matters of National Environmental Significance (MNES) and the Outstanding Universal Value (OUV) of the Great Barrier Reef World Heritage Area (GBRWHA). As a result of the meetings the HHID referral was withdrawn and a modified proposal, the PTP was referred to the Commonwealth Minister on 20 November 2012.

The Minister determined that the project would be a controlled action (EPBC 2012/6643) under the provisions of the EPBC Act and that it would need to be assessed by an EIS. The controlling provisions for the proposal under the EPBC Act were considered to be:

- World Heritage properties (section 12 & 15A)
- National Heritage places (section 15B & 15C)
- Listed threatened species and communities (sections 18 & 18A)
- Listed migratory species (sections 20 & 20A)
- Great Barrier Reef Marine Park (section 24B & 24C).

The draft guidelines for PTP were advertised for public comment on 19 February 2013 and the final guidelines were issued to the proponent on 18 April 2013.

The PTP EIS addressed the assessment requirements specified in Section 102 of the EPBC Act and Schedule 4 of the *Environment Protection and Biodiversity Regulations 2000* (EPBC Regulations). The Draft EIS was made available for public comment from 16 December 2013 to 24 January 2014. Public notices were placed in the Australian and Gladstone Observer newspapers informing the public of the display period and contact details for submissions. Access to the Draft EIS was made available as follows:

- At the State Library of Queensland, Cultural Centre, Stanley Place, South Bank Brisbane
- At GRC offices, Goondoon Street, Gladstone
- The Draft EIS was available for download at http://www.pacificus.com.au
- Printed copies of the Draft EIS were made available for purchase and electronic copies were made available free of charge and could be obtained by telephoning a free-call number, or emailing an information request to the proponent.

Only two submissions were received: from the GRC and Dillons Lawyers on behalf of the Port Curtis Coral Coast registered native title group. The submitters did not identify any impacts on

MNES that had not already been addressed in the EIS. The Proponents evaluation of the submissions did not lead to any changes in overall conclusions as to the significance of impacts on MNES and World Heritage Area values. The responses to the submitters were included in the Final PTP EIS which can be viewed on the Proponents Website at http://www.pacificus.com.au.

The PTP was approved on 26 November 2015 by the Commonwealth Minister for the Environment, under the EPBC Act. The Decision Notice and conditions attached to the approval are included in Appendix 1. The Conditions attached to the approval are largely complementary to the Conditions in the CoG's Report of February 2011. In addition the Minister required that Eaton Place must submit to the Minister, for written approval, a Heritage Values Management Strategy that is aligned with the broader strategies and programs of the Reef 2050 Long Term Sustainability Plan, prior to commencement of the action.

2.2 Overview and Findings

The EIS assessed the potential environmental impacts of the proposal on MNES with a significant focus on the OUV of the GBRWHA. The following MNES values of highest importance were identified:

- Migratory shorebird habitat on the south-eastern mud- and salt-flats of HHI form part of a Mundoolin/Colosseum/Rodds Bay conglomeration of sites that are internationally important with respect to the eastern curlew and nationally important with respect to other migratory shorebirds
- About 190 ha of the critically endangered ecological community Littoral Rainforest and Coastal Vine Thickets of Eastern Australia behind the north eastern beaches of the island.

The following MNES values of moderate importance were identified:

- Marine turtle and dugong foraging habitat in waters around HHI
- Flatback turtles nesting in low numbers on the beach to the east of the headland
- Two other vegetation communities that are not well represented within the GBRWHA/NHP
    - a 10 ha patch of *Eucalyptus melanophloia* woodland
    - 385 ha of *Eucalyptus tereticornis* and *E. crebra* dominated forests.

The overall contribution to criterion (x) of the World Heritage criteria (important and significant natural habitats for in-situ conservation of biological diversity) was assessed as moderate. Otherwise, HHI and surrounding waters was assessed as making a low contribution to the OUV of the GBRWHA.

No significant or unacceptable impacts were identified. Direct and indirect impacts on highest importance MNES values are avoided completely through the layout of the development and existence of buffers between these values and areas of activity. There are a small number of impacts on lower importance MNES values but the severity of impacts is low and significant impacts are not expected. Indirect impacts on moderate and lower importance MNES values are all low or negligible due to design features of the project and the availability of established and reliable mitigation measures to manage unavoidable impacts.

On 29 November 2013, draft reports for the Great Barrier Reef Region Strategic Assessment and the Great Barrier Reef Coastal Zone Strategic Assessment were released for public comment. At the request of DotE, the proponent undertook a review of the consistency of the project against the draft strategic assessment reports. The review concluded that:

- The PTP EIS addressed all of the impacts identified in the Strategic Assessments as being associated with coastal (tourism) development, island development and tourism and recreation activities
- PTP would not exacerbate any of the identified impacts and may contribute to reduced impacts particularly through enhanced resilience of terrestrial ecosystems
- PTP would deliver on the benefits of tourism identified in the Strategic Assessments while avoiding and managing potentially adverse impacts
- PTP is consistent with all of the legislative and policy controls identified in the Strategic Assessment as important to management of the MNES values of the GBR.

2.3 Independent Expert Panel Review

Following publication of the Final EIS in April 2014, the Proponent commissioned an Independent Expert Panel to review the EIS, assess the World Heritage values of HHI and the potential impacts of the project on these values. The panel was chaired by Dr Adam Smith and included Professor Richard Kenchington and Ms Anthea Tinney. The Expert Panel concluded that:

> *"The Pacificus Tourism Project (PTP) has been sensitively designed and is considered to have an insignificant to low risk of impacting the world heritage values and the outstanding universal values of the Great Barrier Reef World Heritage Area (GBRWHA). "*

The Expert Panel Report may be viewed on the Proponents website at http://www.pacificus.com.au.

3. Changes to HHID

3.1 Changes to Footprint

The Masterplan of the HHID is shown on Figure 1 and the Master Plan for the revised project, PTP, is shown on Figure 2. There has been an overall reduction in the development area as detailed in Table 3-1 and shown on Figure 3.

Table 3-1 Changes in Development Area

Component	HHID	PTP
Total Master Plan area	518 ha	465 ha
Development footprint	341 ha	307 ha
Open space, golf course and parkland	177 ha	158 ha

Compared to HHID, the project Master Plan has been amended to:

- Provide a wider buffer (80-100 m) between the development footprint and the critically endangered ecological community Littoral Rainforest and Coastal Vine Thickets of Eastern Australia in the area adjacent to the Headland (see Figure 3)
- Completely avoid disturbance to the 10 ha patch of *Eucalyptus melanophloia* woodland (classified as 12.12.8 under the Queensland Regional Ecosystem Description Database (REDD)) (see Figure 3). This was in response to concerns from DotE that this vegetation community does not occur on other islands within the GBRWHA
- Reduce clearing of *Eucalyptus tereticornis* and *E. crebra* dominated forest (classified as 12.12.12 under the Queensland REDD) from 195.1 ha (58% of the total area occurring on HHI) to 153.2 ha (40.1% of the total area occurring on HHI) (see Figure 3). This was also in response to concerns from DotE that this vegetation community does not occur on similar geology anywhere else within the GBRWHA
- Retain approximately 50% of mature trees within the development boundary in the following vegetation types to provide nesting and foraging habitat for native animals:
    - *Eucalyptus crebra* woodland,
    - *Corymbia spp., Eucalyptus spp., Acacia spp.* open forest to low closed forest
    - *Eucalyptus populnea* woodland
    - *Eucalyptus tereticornis* and *E. crebra* dominated forest.
- Relocate the golf course from the south/central area of the proposed development to the north western area (See Figure 3). This change was prompted partly by the change in the master plan boundary in the vicinity of the golf course but, as the golf course design is intended to retain native vegetation and provide for water retention features, this change is also expected to further enhance east-west connectivity across HHI for ground dwelling animals. This change also consolidates the tourism elements of the project providing for ease of management of these areas and enhanced social and community amenity
- Remove the proposed boat ramp on Colosseum Inlet at the eastern end of HHI to avoid disturbance to coastal wetlands and mangrove vegetation.

The change in footprint of the project also means that there is a change in footprint of the proposed conservation area, since the conservation area is intended to cover the balance of HHI. Hence, the conservation area has increased by 53 ha, however the principle remains the same, that is, the balance of HHI will be managed as a conservation area.

3.2 Other Commitments

Further commitments were also made by the proponent in relation to:

- Flight restrictions in relation to approach and take off from the southern end of the airstrip to minimise potential risk of disturbance to migratory shorebirds foraging and roosting in intertidal areas east of the existing causeway
- Further details on monitoring of recreational boat related impacts, including water quality impacts, litter and impacts of anchors on the seagrass beds, with adaptive management measures proposed in the event that monitoring indicates degradation of environmental values
- A more detailed approach to management of light spill and human access to the north eastern beach area, where turtles have occasionally been observed to nest, and terns may also nest.

3.3 Projected Population and Accommodation Units

There have been no significant changes to the intent, scale and composition of the proposed development. There are slight reductions in the anticipated population and accommodation units as shown in Table 3-2 and Table 3-3.

Table 3-2 Change in Population

Component	HHID	PTP
Tourists	2800	2700
Permanent residents	1200	1200
Total population	**4000**	**3900**

Minor changes have also been made to the number of accommodation units to adapt to the slight reduction in development footprint, as shown in Table 3-3. As with previous commitments, 15% of permanent accommodation will be developed as low cost housing (approximately 115 units).

Figure 3 **Proposed Changes to the Development Boundary**

Table 3-3 Accommodation Units

Tourist Accommodation	No of Units	
	HHID	PTP
Headland Resort Hotel and Conference Centre	240	240
Beachfront Tourist Hotel	150	150
Motel	70	70
Tourist park/Camp ground	200	170
Health Spa Retreat		20
Holiday homes and townhouses	615	845
Holiday Apartments	650	430
TOTALS	**1925**	**1925**

Residential Accommodation	No of Units	
	HHID	PTP
Residential homes and townhouses	690	530
Residential Apartments	100	240
TOTALS	**790**	**770**

3.4 Tourist Facilities

The proposed tourist facilities remain unchanged except for the deletion of the Colosseum boat ramp to reduce impacts on the proposed conservation area at the western end of the island (Table 3-4).

Table 3-4 Tourist Facilities

Facility	HHID	PTP
Golf Course and Clubhouse	✓	✓
Life Saving Club	✓	✓
Sports centre: gym, tennis, squash courts and lawn bowls	✓	✓
Boat/canoe hire/bait and tackle shop	✓	✓
Helicopter trips to the GBR Islands	✓	✓
Tourist Retail	✓	✓
Cafes and restaurants	✓	✓
Tourist Information Centre	✓	✓
Aboriginal Cultural Centre	✓	✓
Terrestrial and Marine Centre	✓	✓
Boat Ramp	Two	One

Facility	HHID	PTP
Airstrip	✓	✓
Community market	✓	✓
Lookout on Hummock Hill Summit	✓	✓

3.5 Community and Recreational Facilities

There are three changes in the community and recreational facilities:

- A native plant nursery has been **added** to assist with propagation of native plants for landscaping throughout the development footprint and also for use in any rehabilitation works that might be required on HHI. Some plants may also be available for sale as seedlings or pot plants
- An Ecological Design Centre has been **added** to provide information and advice on ecologically sustainable design of buildings to be constructed on the island. This has been added in response to proponent commitments for both HHID and the project that all buildings within the development will be sustainable, and also further discussions with DotE in relation to minimising visual impact of buildings on the GBRWHA and lighting impacts on some wildlife habitats. The centre will also be open to visitors to provide an educational and awareness raising function for visitors. The centre will include information on:
    - Ecologically sustainable design principles including sustainable, smart housing design principles
    - Compliance with the Green Star and National Australian Built Environment Rating System standards
    - The architectural character to be achieved and choices of materials and finishes to (a) minimise visual impact, (b) retain the desired character of the development, (c) provide for maximum fire resistance, (d) reduce energy consumption and (e) minimise embodied energy, transport energy requirements and overall material sustainability
    - Options for dealing with distinctive site characteristics such as sloping sites, beach front sensitivity, hydrological issues, geotechnical conditions and soil types
    - Space conditioning, emphasising passive design to minimise requirements for space heating and cooling and associated electrical demands
    - Other energy use and conservation considerations, including (a) solar hot water heating (with gas boosters), (b) energy efficient lighting
    - Water use and conservation, including safe and appropriate use of the proposed recycled water system for toilet flushing and external uses
    - Requirements for minimising the obtrusive effects of lighting, particularly where lighting might illuminate the adjacent the adjacent conservation area and beaches
    - Bush fire management practices and fire protection protocols
    - Landscape design and vegetation management, including species lists.
- The boat ramp on Colosseum Inlet has been **removed** from the project to minimise impacts on the western end of HHI.

3.6 Infrastructure and Services

Three changes to infrastructure have been made.

3.6.1 Potable Water Supply

Following discussions with GRC, the proposed water supply solution is now a permanent desalination facility as GRC has indicated that it is unlikely to extend its water supply network towards HHI in the foreseeable future. The capacity of the facility is the same as the proposed temporary facility that was included in HHID and all other aspects of operation and maintenance, including management of brine, remain unchanged. Proposed augmentation with rooftop capture and storage and third pipe reticulation of Class A+ treated waste water for non-potable use also remains unchanged.

3.6.2 Stormwater and Wastewater Storages

The changes in layout within the master plan area, and particularly the relocation of the golf course will result in changes to stormwater and treated wastewater storage systems, however the principles and approaches to stormwater and treated wastewater management remain the same, and there is no change to the nature of runoff from the proposed development area. All components of infrastructure remain within the proposed development footprint.

3.6.3 Solid Waste Disposal

The third change is that the proposed waste transfer station has been removed from the masterplan. Two compactor trucks will be provided to GRC to transfer solid waste and recyclables from households and businesses on the island and transport it directly to the GRC solid waste landfill at Benaraby.

There are no other changes to infrastructure requirements, or the proposed methods of providing infrastructure and services. There are no changes to the capacity of infrastructure and services as a result of the revised plan of development.

3.7 Schedule and Budget

There is no change to the proposed development schedule of 17 years, or the budget or approximately $950 million, except to allow for inflation since 2011. The HHID EIS proposed that the development would take place in three main phases, phase 1 being construction of main infrastructure components including the bridge, and phase 2 and 3 being progressive delivery of the tourism and residential components of HHID. For PTP, phases 2 and 3 have been consolidated, and it is expected that the delivery of the project will occur as follows:

- **Phase 1 - Primary infrastructure**, including:
    - Upgrading of the Bruce Highway-Turkey Beach Road Intersection
    - Upgrading of the access road from Foreshores Road to Boyne Creek
    - Boyne Creek Bridge
    - Potable water desalination plant, sea water intake and evaporation ponds
    - Waste water treatment plant and recycled water treatment plant

- Power supply from existing electricity network

- **Stage 2 - Tourism, community and residential Infrastructure** including:
  - Tourist, residential, commercial and retail components
  - Tourist infrastructure
  - Community infrastructure.

This change has no implications for the environmental or social impacts of the project when compared to HHID, and no further assessment is provided.

A revised development schedule is included in Appendix 2.

3.8 Revised Plan of Development

The Plan of Development (PoD) prepared for the HHID was based on the format and provisions of the Miriam Vale Planning Scheme to ensure consistency between the two documents and for ease of use. The revised PoD has been updated to reflect:

- The new GRC Planning Scheme which commenced on 12 October 2015. The Gladstone Regional Council Planning Scheme replaces the previous Planning Schemes for Gladstone City, Calliope Shire and Miriam Vale Shires, providing a consolidated planning document for all planning and development across the region. The PoD has been updated to reflect the new format and terminology of the GRC planning scheme for ease of use and to provide for consistent land use definitions.
- The revised PoD addresses the revised development layout and changes to the development components described in Section 3 and in particular, a new precinct plan has been included. The project precinct plan (Figure 3 of Appendix 3) details the areas within the development boundaries for which specific types of development are proposed. The plan links directly to the development codes contained within the PoD.

The substantive provisions of the PoD have not changed from HHID to the revised project and remain focussed on building form and sustainably outcomes.

The draft PoD is attached as Appendix 3.

4. Evaluation of Environmental Impacts of Proposed Changes

4.1 Matters of State Environmental Significance

MSES were formally introduced and defined by the State Planning Policy (SPP) in July 2014 and hence were not addressed specifically in the HHID EIS (SKM 2007) or the CoG's report from February 2011. Table 4-1 provides an evaluation of the occurrence of MSES on or adjacent to HHI as well as an evaluation of potential changes in impact from HHID to PTP. MSES mapping obtained from the Queensland Government's mapping tool is provided in Appendix 6. Table 4-2 provides a detailed evaluation of the likely occurrence and potential impacts on threatened species listed under the Nature Conservation Act 1992. Table 4-3 sets out the regional ecosystem (RE) clearing areas for the project compared to the areas approved in the CoG's report (February 2011). Apart from reductions in clearing of 12.12.8 and 12.12.12, some other changes in areas are shown due to further refinement of RE mapping which has been undertaken by the proponent in consultation with Department of Natural Resources and Mines.

The evaluation did not identify any increase in impacts on MSES from the project compared to HHID, and some slight reductions in impacts on some MSES are anticipated due to the reduced footprint of the project and additional mitigation measures incorporated into PTP.

4.2 Reduction in Footprint

The reduction in footprint from HHID to the revised project has been specifically adopted to reduce the impact on floristic diversity in the GBRWHA. Specifically, *Eucalyptus melanophloia* woodland (classified as 12.12.8 under the Queensland REDD) and *Eucalyptus tereticornis* and *E. crebra* dominated forest (classified as 12.12.12 under the Queensland REDD) do not occur elsewhere on islands in the GBRWHA. Similar vegetation associations are present on Curtis Island, however Curtis Island is in a different bioregion (Bioregion 11), and hence the proponent accepts that the vegetation associations are not considered identical.

The reduction in footprint ensures that the entire 10 ha patch of *Eucalyptus melanophloia* woodland is retained on HHI and increases retention of *Eucalyptus tereticornis* and *E. crebra* dominated forest such that 60% of the total occurrence (229 ha) on HHI is retained.

As both *Eucalyptus melanophloia* woodland and *Eucalyptus tereticornis* and *E. crebra* dominated forest are of concern regional ecosystems, the clearing of concern regional ecosystems is reduced by about 54 ha. As *Eucalyptus tereticornis* and *E. crebra* dominated forest is also mapped as essential habitat for Koala, the impact on mapped essential habitat is also reduced by about 42 ha.

Table 4-1 MSES Evaluation

MSES[1]	Occurrence at HHI[2]	Change in impact from HHID to the Project
State Conservation		
Protected areas under the *Nature Conservation Act* 1992	There are no protected areas under the *Nature Conservation Act* 1992 on or adjacent to PTP.	No change - value not present within or adjacent to HHID or PTP
Marine parks and land within a 'marine national park', 'conservation park', 'scientific research', 'preservation' or 'buffer' zone under the *Marine Parks Act* 2004	The SPP interactive mapping does not identify any marine parks adjacent to HHI. However, the CoG's report for HHID notes that "The inner waters and the marine area between low water and highest astronomical tide (HAT) are located within the State Government's Great Barrier Reef Coast Marine Park (GBRCMP)." In fact Hummock Hill Island is entirely surrounded by the GBRCMP. The GBRCMP includes internal waters and all intertidal areas up to Highest Astronomical Tide.	Reduction due to removal of one of two boat ramps and restrictions on use of remaining boat ramp. Both HHID and the project require construction of a bridge across Boyne Creek. No change has been made to the location or design of the bridge. While some minor changes have been made to boundary of the project (resulting in reduction in overall footprint of about 50 ha) no changes were made immediately adjacent to the GBRCMP, and the project boundary does not come any closer to the GBRCMP compared to the HHID boundary. Indirect impacts on the GBRCMP may arise from changes in the quantity or quality of stormwater runoff. Natural drainage patterns from HHI are such that most stormwater runoff occurs to the south and west of HHI, that is, into the GBRCMP. No changes have been made in relation to water and wastewater management between HHID and PTP, and hence no change in associated impacts is expected. The golf course has been relocated, however proposed practices to contain and manage water runoff and seepage from the golf course have not changed. A detailed evaluation of potential water quality impacts is provided in Section 8.5 of the PTP EIS[3]. The proposed boat ramp at the western end of HHI, into Colosseum Inlet, has been removed in response to comments from DotE. In response to concerns raised by DotE, a more detailed evaluation of potential impacts of recreational boating and fishing was undertaken. While no change in

[1] Derived from DEHP (undated) Fact sheet: Matters of State Environmental Significance mapping

[2] Occurrence determined from the State Planning Policy Local Government Development Assessment mapping tool (downloaded 17/02/2016, see Appendix 6) with augmentation from information in the PTP EIS.

[3] References to sections and figures relate to the PTP EIS, a copy of which is available at http://www.pacificus.com.au/1590-2/

MSES[1]	Occurrence at HHI[2]	Change in impact from HHID to the Project
		impact between HHID and the project is expected, the more detailed evaluation may be of interest and can be found in Sections 8.5.15, 8.5.16, 8.7.3, 8.7.7 and 8.8.4 of the PTP EIS. It should also be noted that DotE has imposed condition 3.c.iii. in its approval decision, requiring the proponent to limit access to the boat ramp at Boyne Creek to residents and guests of PTP.
Areas within declared fish habitat areas that are management A areas or management B areas under the *Fisheries Regulation 2008*	The Colosseum Fish Habitat Area (FHA) lies to the south and west of HHI, as shown on Figure 6.38 of the PTP EIS.	Slight reduction due to removal of one of two boat ramps and restrictions on use of remaining boat ramp. HHID and the project require construction of a bridge across Boyne Creek. No change has been made to the location or design of the bridge. The bridge is located within a corridor that is excised from the Fish Habitat Area. While this is not shown on the SPP interactive mapping tool, it is clearly marked on the Queensland Government Fish Habitat Area boundary map: http://www.nprsr.qld.gov.au/managing/pdf/colosseum.pdf and is referred to in the CoG's report conditions. While some minor changes have been made to boundary of the project (resulting in reduction in overall footprint of about 53 ha) no changes were made immediately adjacent to the coastline and boundary with the Colosseum FHA, and the new project boundary does not come any closer to the Colosseum FHA compared to the HHID boundary. Indirect impacts on the Colosseum FHA may arise from changes in the quantity or quality of stormwater runoff. Natural drainage patterns from HHI are such that most stormwater runoff occurs to the south and west of HHI, that is, into the Colosseum FHA. No changes have been made in relation to water and wastewater management between HHID and PTP, and hence no change in associated impacts is expected. The golf course has been relocated, however proposed practices to contain and manage water runoff and seepage from the golf course have not changed. A detailed evaluation of potential impacts of the project on water quality is provided in Section 8.5 of the PTP EIS. The proposed boat ramp at the western end of HHI, into Colosseum Inlet, has been removed in response to comments from DotE.

MSES[1]	Occurrence at HHI[2]	Change in impact from HHID to the Project
Wetlands		
Designated precincts of Strategic Environmental Areas under the *Regional Planning Interests Act* 2014	Neither HHID or the project are located in a designated precinct of a strategic environmental area	No change - value not present
Wetlands in a wetland protection area or wetlands of high ecological significance shown on the Map of Referable Wetlands under the Environment Protection Regulation 2008	High ecological significance (HES) wetlands are located along the boundary of Lot 3 FD841442, and in the north-east corner of this lot. These are shown as "wetland protection areas" on Figure 6.37 of the PTP EIS. None are located within the footprint of the project (nor were any located in the footprint of HHID).	No change There is no change in impact between HHID and PTP. There are no HES wetlands located within the footprint of PTP, nor is there any change in the boundary adjacent to HES wetlands. The proposed bridge will cross HES wetlands but will do so in a corridor already disturbed by the existing causeway. There is no change in the location or footprint of the bridge between HHID and PTP.
Wetlands in high ecological value waters as defined in the *Environmental Protection (Water) Policy 2009*, schedule 2.	The SPP mapping tool does not show any high ecological value waters within or adjacent to HHI.	No change - value not present
Watercourses in high ecological value waters as defined in the *Environmental Protection (Water) Policy 2009*, schedule 2.	The SPP mapping tool does not show any high ecological value waters within or adjacent to HHI.	No change - value not present

MSES[1]	Occurrence at HHI[2]	Change in impact from HHID to the Project
Species Habitat		
Threatened wildlife under the *Nature Conservation Act 1992* and special least concern animal under the *Nature Conservation (Wildlife) Regulation 2006*	Refer Table 4-2Listed Threatened Species of this report.	No change, possible reduction in impact due to reduced footprint and additional mitigation measures, particularly: • Retention of 50% of mature habitat trees within development boundary • Adoption of an innovative dual carriageway design for the trans-island connector road that will provide refuge in the median strip for ground dwelling fauna and birds seeking to make east-west movements • Monitoring of recreational boat related impacts, including water quality impacts, litter and impacts of anchors on the seagrass beds, with adaptive management measures proposed in the event that monitoring indicates degradation of environmental values • Managing light spill and human access to the north eastern beach area, during turtle nest in and hatching periods. More discussion is provided in Table 4-2Listed Threatened Species of this report.
SEQ Koala Bushland Habitat	HHI is not located within the SEQ Koala Bushland habitat	No change - value not present
Regulated vegetation under the *Vegetation Management Act* 1999 that is: areas of essential habitat on the essential habitat map for wildlife prescribed as 'endangered wildlife' or 'vulnerable wildlife' under the *Nature Conservation Act 1992*	14 7ha of essential habitat for koala, corresponding with RE 12.12.12 has been identified within the project footprint through mapping. Note however that koala are not present on HHI (see Table 4-2 of this report).	Reduced impact - the extent of clearing of regional ecosystem 12.12.12 (essential habitat: koala) has been reduced by 42 ha compared to HHID. An offset strategy has been prepared in relation to this value (PTP January 2016, Appendix 4).

MSES[1]	Occurrence at HHI[2]	Change in impact from HHID to the Project
Regulated Vegetation under the *Vegetation Management Act 1999* that is:		
Category B areas on the regulated vegetation management map, that are 'endangered' or 'of concern' regional ecosystems	PTP requires clearing of: • 3 ha Endangered RE • 155 ha of Concern RE The full extent of clearing of endangered and of concern regional ecosystems is provided in Table 4-3 of this report.	Reduced impact. The area of concern remnant vegetation to be cleared has been reduced by 48 ha compared to HHID. An offset strategy has been prepared in relation to this value (PTP January 2016, Appendix 4).
Category C areas on the regulated vegetation management map that are 'endangered' or 'of concern' regional ecosystems	No category C areas (High value regrowth)	No change - value not present
Category R areas on the regulated vegetation management map	No category R areas have been identified	No change - value not present
Regional ecosystems that intersect with wetlands identified on the vegetation management wetlands map	No regional ecosystems that intersect with wetlands have been identified.	No change - value not present
Regional ecosystems that intersect with watercourses identified on the vegetation management watercourse map	1.5 ha of REs that intersect with watercourses have been identified (12.12.12 and 12.12.7)	No change. An offset strategy has been prepared in relation to this value (PTP January 2016, Appendix 4).

MSES[1]	Occurrence at HHI[2]	Change in impact from HHID to the Project
Secured offsets		
Legally secured offset areas	There are no legally secured offset areas within or adjacent to either HHID or PTP	No change - value not present

Table 4-2 Listed Threatened Species

Species, Status	Likelihood of Occurrence	Change in impact from HHID to PTP
Numenius madagascariensis, eastern curlew (V) Other migratory shorebirds (SL)	The combined Mundoolin/Colosseum and Rodds Peninsula area (see Figure 6.56 of the PTP EIS) is internationally important for one migratory shorebird species, supporting more than 1% of the East Asian-Australasian flyway population of Eastern Curlew *Numenius madagascariensis* during two of the survey events undertaken over 2011 and 2012 (see Section 7.5.2 of the PTP EIS for more detail). While this assessment is based on only two years of surveys, the maximum count exceeded the 1% threshold in both years. The area is not known to support a total abundance of more than 20,000 waterbirds. The combined Mundoolin/Colosseum and Rodds Peninsula area is considered as a site of national importance for migratory shorebirds generally (see Section 7.5.2 of the PTP EIS for more detail). The determination of international and national importance is based on the entire conglomeration of sites in the Mundoolin/Colosseum and Rodds Peninsula area. The main roosting and foraging habitat on HHI that contributes to this conglomeration is at sites 65a, 65b and 65c (Figure 6.56 of the PTP EIS). Other sites on HHI have very low numbers of migratory shorebirds.	No change or possible slight reduction due to additional mitigation measures, removal of boat ramp at Colosseum Inlet and restricted use of proposed Boyne Creek boat ramp. The project is expected to have a slightly lower tourist population, reduced from an estimated 2800 for HHID to 2700 for PTP, however this is not likely to make many significant change to recreational boating numbers., However it should be noted that a condition of approval under the EPBC Act is that the Boyne Creek boat ramp is only used by those staying at the project and this may reduce recreational boating levels slightly (see also Section 4.5). The footprint of both HHID and the project is entirely outside the intertidal and supratidal area and neither development takes place within or immediately adjacent to identified foraging and roosting areas that contribute to the importance of the Mundoolin/Colosseum and Rodds Peninsula conglomeration. The minimum separation distance from the edge of either HHID or the project to the nearest significant roosting and foraging sites, being sites 65a, 65b and 65c (Figure 6.56 of the PTP EIS), is over 500 m. This is greater than observed distances at which shorebirds might take flight due to disturbance (see also Table 4.1 of Appendix E of the PTP EIS). Access to this area from land will remain very difficult due to the need to cross the intertidal Sandfly Creek

Species, Status	Likelihood of Occurrence	Change in impact from HHID to PTP
		and traverse uncleared vegetation including mudflats and mangrove areas. This is discussed further in Section 10.2.4.2 of the PTP EIS. Both HHID and the project have stormwater management systems that are designed to ensure minimal change to quality and quantity of stormwater runoff from the development footprint. Both HHID and the project have a zero discharge water and wastewater management system. Hence, no change in water quality in the intertidal and supratidal areas is expected. Further information on potential impacts of the project on water quality is provided in Section 8.5 of the PTP EIS. Both HHID and the project propose a boat ramp on Boyne Creek, near the bridge, and HHID also included a boat ramp on Colosseum Inlet to the west which has now been removed. A condition of approval under the EPBC Act is that the boat ramp at the project be available only for use by visitors and residents staying at PTP, and not to the general traffic. These changes are likely to reduce recreational boat numbers using the area. Section 10.2.4.3 of the PTP EIS provides a detailed assessment of whether potential increases in recreational boating traffic in Boyne Creek and Seven Mile Creek (to the South and East of HHI respectively) might disturb migratory shore birds. While it is known that some migratory shore bird species are easily disturbed, recreational boats will generally not be able to approach within several hundred metres of important roosting and foraging sites and will be travelling at low speeds in these areas due to navigational restrictions. If shorebirds are disturbed, these will be able to move easily to alternative foraging and roosting sites in close proximity, with minimal energy expenditure. Both HHID and the project will have a small private airstrip which may be used by a commercial operator to run scenic

Species, Status	Likelihood of Occurrence	Change in impact from HHID to PTP
		flights. Consideration was given to potential impacts of light aircraft utilising the private airstrip on migratory birds in Section 10.2.4.4 of the PTP EIS. A horizontal and vertical exclusion zone of 1000 m has been proposed over the main roosting and foraging sites to ensure that taking off or approaching the airstrip do not disturb feeding and roosting birds (see Figure 2.14 of the PTP EIS).
Esacus magnirostris, Beach stone-curlew (V)	The beach stone-curlew has been identified as occurring on HHI from wildlife online records (1 record). Between 2 and 5 beach stone curlews have been identified at the Mundoolin-Colosseum roosting/foraging sites (see Figure 6.56 of the PTP EIS) in nine migratory bird surveys undertaken by Gladstone Ports Corporation in 2011 and 2012. Beach stone-curlews make nests on sandbanks, and in mangroves and sand surrounded by grass and scattered casuarinas. Some suitable nesting habitat is available on HHI.	No change, possible slight reduction due to additional mitigation measures. As for eastern curlew and migratory shorebirds. While beach stone-curlew breeds in Australia, human access to suitable nesting habitat in the vicinity of the project is currently difficult due to muddy terrain and dense vegetation and access will not be enhanced. Proposed requirements for dogs to be on leads will also reduce risk of disturbance to nesting birds or predation of chicks in the event that dogs are able to access the suitable breeding areas.
Erythrotriorchis radiates (E) Red goshawk	HHI is within the range of this species. Wildlife online records show that there have not been any sightings within 25 km of HHI, however there have been sightings in the Gladstone Regional Council area. It is known from the Kroombit Tops area, about 50 km south-west of HHI and Eurimbula National Park, approximately 30 km south of HHI. Red goshawk forages across a range of several hundred kilometres but is rarely seen away from large areas of intact woodland and focusses on riparian areas. Red Goshawk preys almost exclusively on birds and its hunting style leads to a preference for open woodland where it can manoeuver easily. Preferred areas feature permanent water and fertile soils supporting relatively rich bird	No change. Neither HHID nor the project is expected to impact on red goshawk habitat.

Species, Status	Likelihood of Occurrence	Change in impact from HHID to PTP
	populations, conditions which are not typically met on HHI. See Section 7.4.3.5 of the PTP EIS for more information.	
Xeromys myoides Water mouse (V)	Known to occur in on the eastern end of HHI (http://www.environment.gov.au/epbc/publications/xeromys-myoides.html). Intertidal and supratidal mangroves and saltmarshes on the southern shore of HHI and the adjacent mainland shoreline also provide potentially suitable habitat for water mouse. The location of these habitat features are identified in the PTP EIS and further information is provided in Section 7.4.3.1 of the PTP EIS.	No change. The footprint of both HHID and the project is entirely outside the intertidal and supratidal area. Both HHID and the project have stormwater management systems that are designed to ensure minimal change to quality and quantity of stormwater runoff from the development footprint. Both HHID and the project have a zero discharge water and wastewater management system. Hence, no change in water quality in the intertidal and supratidal areas is expected (se also Section 8.5 of the PTP EIS for more information on potential impacts on water quality). The proponent of HHID and the project has committed to ban cats and allow dogs only under control, hence risk of predation is not expected to increase (see Section 8.6.5 of the PTP EIS).
Rostratula australis (V) Australian painted snipe	Australian painted snipe prefer wetlands with east access to the waterbody from the shoreline and open surroundings. While HHI has a small number of farm dams and areas that are periodically inundated, these waterbodies do not meet Australian painted snipe habitat preferences. Further assessment of potential to occur on HHI is provided in Section 7.4.3.6 of the PTP EIS.	No change. Neither HHID nor the project is expected to impact on Australian painted snipe habitat.
Phascolarctos cinereus (V) Koala	There is some suitable habitat for Koala on HHI. There are no confirmed records within 1 km of HHI, and fauna surveys conducted on HHI since 1993, including targeted survey work, have not identified koala on HHI, nor has evidence of koala scratches on trees been observed. This is not unexpected given that HHI is an island and also given forestry and grazing practices in the last 100 years.	No change While suitable koala habitat is present, koala is not known to occur on HHI.

Species, Status	Likelihood of Occurrence	Change in impact from HHID to PTP
	Koala are known from the GRC area and wildlife online records show one confirmed sighting within 25 km of HHI and 40 confirmed sightings in GRC. Further information on the likelihood of occurrence on HHI is provided in Section 7.4.3.14 of the PTP EIS.	
Geophaps scripta scripta (V) Squatter pigeon	Suitable habitat is present on HHI for squatter pigeon and this ground dwelling bird is known to use areas affected by grazing. However, the bird has not been seen in any surveys of HHI and as it is normally found in open areas and highly visible, its presence is considered very unlikely (see also Section 7.4.3.4 of the PTP EIS).	No change While suitable squatter pigeon habitat is present, squatter pigeon is not known to occur on HHI.
Turnix melanogaster (V) Black-breasted button-quail	The characteristic platelets of a Button-quail have been recorded the Littoral Vineforest community east of the headland. Based on habitat preferences in the region, these are likely to have been made by Turnix melanogaster. (see also Section 7.4.3.2 of the PTP EIS).	No change Both HHID and the project avoid all disturbance to the littoral vineforest community to the east of the headland (see Figure 7.1 of the PTP EIS). A commitment was made in both HHID and the project not to provide any additional access to this area, and to manage the area to reduce weeds and predators (see also Section 8.6 of the PTP EIS). Habitat fragmentation is not expected to be an issue due to sedentary nature of this species, and provision for east-west movement through the project (see Section 8.3.4 of the PTP EIS).
Brigalow belt reptiles *delma torquata* (V) Collared delma *Furina dunmalli* (V) Dunmall's snake	While these three reptiles have not been identified in surveys of HHI to date, it is acknowledged that surveys did not specifically target these species. Suitable habitat does exist, as shown in Figure 6.55 of the PTP EIS, with an estimated area of about 3 ha within the proposed development footprint. Historic lack of freshwater may have limited colonisation of HHI, and grazing and burning pressures that have occurred in the last 100 years may have affected any historic populations. HHI is not identified in Australian Government's modelled	No change. While there has been a reduction of 55 ha in the development footprint of the project compared to HHID, the area of land zone 3 (about 3 ha) within the proposed development footprint has not changed. Note that it is proposed to conduct targeted surveys for brigalow belt reptiles prior to commencing vegetation clearing in potential habitat areas. In the unlikely event that a colony is identified, the first preference will be to leave the area undisturbed, and with a buffer and connectivity to

Species, Status	Likelihood of Occurrence	Change in impact from HHID to PTP
Egernia rugosa (V) Yakka skink	range of any of the Brigalow Belt reptiles. Yakka skink, collared delma and Dunmall's snake "may occur" on the adjacent mainland. Wildlife online has records of Yakka Skink and Dunmall's snake in the Gladstone Regional Council area, but there are no records of yakka skink, Dunmall's snake or collared delma within 25 km of HHI.	adjacent habitat, however if this is not possible, translocation is proposed. This is discussed further in Section 9.2.2 of the PTP EIS.
caretta caretta (E) Loggerhead turtle *Natator depressus* (V) Flatback turtle *Chelonia mydas* (V) Green turtle *Dermochelys coriacea* (E) Leatherback turtle *Eretmochelys imbricata* (V) Hawksbill turtle *Lepidochelys olivacea* (E) Olive Ridley turtle	Flatback turtle, loggerhead turtle and green turtle have all been identified in the waters around HHI. The flatback turtle and green turtle are considered to be common in the area. Although HHI is not recognised as an important turtle nesting site, flatback turtle have been observed to nest on HHI on the beach to the east of the headland, several kilometres from the nearest boundary of the project (see Figure 6.52 of the PTP EIS). Nesting density appears to be consistently low and intermittent (see Section 7.4.4.3 of the PTP EIS). Leatherback turtle (endangered under the EPBC Act), hawksbill turtle (vulnerable under the EPBC Act) and Olive Ridley turtle (endangered under the EPBC Act) may utilise the area, however, there have been no positive sightings to date despite repeated surveys undertaken in recent years between Port Alma and Rodds Peninsula for GPC (GPC 2011) and suitable foraging habitat is very limited in the area. Further assessment is provided in Section 7.4.4.3 of the PTP EIS.	No change or possible slight reduction due to additional mitigation measures, removal of boat ramp at Colosseum Inlet and restricted use of proposed Boyne Creek boat ramp. Neither HHID nor the project have any direct impacts on turtle habitat, including flatback turtle nesting habitat. There is a buffer between the project and the western end of the nesting beach, and the buffer is considerably wider for most of the beach. No access is proposed to this beach, and in consultation with the DotE, the proponent has strengthened commitments in relation to preventing (additional) light spillage on this beach, monitoring for nesting activity, and further restricting access in the event that nesting activity is observed until eggs hatch. Both HHID and the project have stormwater management systems that are designed to ensure minimal change to quality and quantity of stormwater runoff from the development footprint. Both HHID and the project have a zero discharge water and wastewater management system. Hence, no change in water quality in the intertidal and supratidal areas is expected. Both HHID and the project are associated with a potential increase in recreational boating activity due to provision of a boat ramp at Boyne Creek. The slight reduction in population from 2800 to 2700 is not likely to make many significant change to recreational boating numbers, however it should be noted that a condition of approval under the EPBC Act is that the Boyne Creek boat ramp is only used by those staying at

Species, Status	Likelihood of Occurrence	Change in impact from HHID to PTP
		the project and this may reduce recreational boating levels slightly (see also Section 4.5 of this report). A number of mitigation measures have been identified to address potential recreational boating impacts, consistent with management approaches taken by GBRMPA and Queensland Government, and include boat speed limits (note that boat speeds in waters around HHI are likely to be limited by existing navigational constraints), education of recreational boaters and monitoring and management of litter (see also Section 9.3 of the PTP EIS for evaluation of potentially significant impacts on marine turtles).
Dugong dugon (V) Dugong	Dugongs are known to occur in Port Curtis and Rodds Bay however this area is not among the most important locations for dugong, (http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=28, accessed 04/02/2013, Marsh et al 2001, Marsh and Lawler 2006, Grech and Marsh 2007). In relation to waters around HHI, a dugong was observed in Boyne Creek at high tide, and another dugong was observed off the eastern end of HHI at low tide (GPC 2011).	No change or possible slight reduction due to additional mitigation measures, removal of boat ramp at Colosseum Inlet and restricted use of proposed Boyne Creek boat ramp. Neither HHID nor the project have any direct impacts on dugong habitat. Both HHID and the project have stormwater management systems that are designed to ensure minimal change to quality and quantity of stormwater runoff from the development footprint. Both HHID and the project have a zero discharge water and wastewater management system. Hence, no change in water quality in the intertidal and supratidal areas is expected. Both HHID and the project are associated with a potential increase in recreational boating activity due to provision of a boat ramp at Boyne Creek. The slight reduction in population from 2800 to 2700 is not likely to make many significant change to recreational boating numbers, however it should be noted that a condition of approval under the EPBC Act is that the Boyne Creek boat ramp is only used by those staying at the project and this may reduce recreational boating levels slightly (see also Section 4.5 of this report). A number of mitigation measures have been identified to address potential recreational boating impacts, consistent

Species, Status	Likelihood of Occurrence	Change in impact from HHID to PTP
		with management approaches taken by GBRMPA and Queensland Government, and include boat speed limits (note that boat speeds in waters around HHI are likely to be limited by existing navigational constraints), education of recreational boaters and monitoring and management of litter. The potential for boat anchors to impact on seagrass beds has been identified. While the magnitude of this effect is unknown, a monitoring program is proposed and, in the event that anchor damage is observed, a no anchor zone will be established in consultation with GBRMPA and the Queensland Government. See also Section 10.4 of the PTP EIS for evaluation of potentially significant impacts on dugong.
Tachyglossus aculeatus (SL) Short-beaked echidna	Identified in surveys and wildlife online records. Echidna are found in a range of habitats across Australia http://www.wildlife.org.au/wildlife/speciesprofile/mammals/short_beaked_echidna.html (accessed 21/02/2016)	No change. Possible slight reduction due to reduction in footprint and additional mitigation measures relating to road mortality and vegetation retention within the development footprint. Habitat loss is not expected to significantly impact echidna except at a local level, as the animal is common, widespread and occupies a wide range of habitats including urban fringe areas. As areas of native vegetation are to be retained within the development footprint, echidna may utilise this area. In addition, the proposed conservation area will provide secure, managed habitat for echidna. Echidna are vulnerable to road strike and injury or mortality during land clearing as the animal's response to threat is to curl into a ball. The proponent has incorporated several additional strategies into the project to minimise road strike risk to native ground-dwelling animals including a dual carriageway with habitat refuge between lanes in the area of the project where the proposed conservation area abuts the main access road, fauna crossings and a speed limit of

Species, Status	Likelihood of Occurrence	Change in impact from HHID to PTP
		60km/hour on the main arterial road and 50km/hour on minor roads. This is discussed in Section 8.6.3 of the PTP EIS. Section 8.6.2 of the PTP EIS also sets out how vegetation clearing will be managed to minimise risk to ground dwelling animals.
Cupaniopsis shirleyana (V) Wedge-leaf tuckeroo	This species has not been identified in surveys to date. Suitable habitat is not present on HHI (see also Table 7.8)	No change. Neither HHID nor the project is expected to impact on this species. Note that pre-clearing plant surveys are proposed.
Germainia capitata (V)	This species has not been identified in surveys to date. Some suitable habitat (open *Eucalyptus spp.* and *Melaleuca spp.* woodland on sandy soils) is present.	No change. Neither HHID nor the project is expected to impact on this species. Note that pre-clearing plant surveys are proposed.
Cycas megacarpa (E)	This distinctive plant has not been identified in surveys to date. Suitable habitat is present, although *Cycas megacarpa* is rarely found below 40 m AHD, and much of HHI and the proposed development footprint is below this level. More detail is provided in Table 7.8.	No change. Neither HHID nor the project is expected to impact on this species. Note that pre-clearing plant surveys are proposed.
Apatophyllum olsenii (E)	This plant is known to occur in the many Peaks Range, south of Gladstone, in central-eastern Queensland and grows on granite ridges in open forest habitat. (https://environment.ehp.qld.gov.au/species-search/details/?id=11115 accessed 26/2/2016). The species has not been identified on HHI in surveys to date, and while suitable habitat is available on HHI, it is outside the development footprint.	No change, neither HHID nor the project is expected to impact on suitable habitat for this species. Note that pre-clearing plant surveys are proposed.
Migratory birds - terrestrial and marine (SL)	Ten migratory terrestrial and marine birds have been identified on HHI and two may potentially occur on the basis of suitable habitat. . All of the migratory terrestrial and marine bird species present or likely to be present on HHI are common and	No change, possible minor reduction due to reduced footprint of the project compared to HHID Neither HHID nor the project is expected to have any adverse impact on terrestrial or marine migratory birds.

Species, Status	Likelihood of Occurrence	Change in impact from HHID to PTP
	have a wide variety of habitat preferences, including in the case of most of the terrestrial migratory birds, disturbed and urban habitats. All of the species are widely distributed and there is no evidence that HHI is within an area that supports ecologically significant proportion of any of these species or provides habitat of critical importance to any stage of the life cycle of any of the species known or potentially present. HHI is not located at the northern or southern extent of the range of any of these species.	

Table 4-3 Regional Ecosystem Impacts

Clearing RE	RE Description	Impacted Area (ha)	
		Authorised in CG Report	PTP Offsets Report
12.1.1 (OC) (28a)	*Casuarina glauca* ± *Melaleuca quinquenervia* ± mangroves openforest. Occurs on margins of Quaternary estuarine deposits. Casuarina glauca was found to be present only as disturbed regrowth on the margin of landzone 2 and landzone 12.	0.25	0.25
12.2.11	*Corymbia* spp., *Eucalyptus* spp., *Acacia* spp. open forest to low closed forest on beach ridges	159.04	176.50
12.3.3 (End) (koala) (16c)	*Eucalyptus tereticornis* open-forest to woodland. *Eucalyptus crebra* and *E. moluccana* are sometimes present and may be relatively abundant in places, especially on edges of plains and higher level alluvium.	5.43	1.90
12.3.10 (End) (koala) (17a)	*Eucalyptus populnea* ± *E. tereticornis* grassy woodland/tall woodland ± patches of *Acacia harpophylla* and *Melaleuca bracteata*. Occurs on Quaternary alluvial plains.	4.50	2.00
12.12.7 (LC) (13c)	*Eucalyptus crebra* grassy woodland. Other species such as *Corymbia erythrophloia*, *Eucalyptus exserta*, *E. tereticornis*, *C. tessellaris*, *C. citriodora* may be present in low densities or in patches.	86.42	79.34

Clearing RE	RE Description	Impacted Area (ha)	
		Authorised in CG Report	PTP Offsets Report
12.12.8 (OC) (17b)	*Eucalyptus melanophloia*, usually with *E. crebra* ± *Corymbia erythrophloia* grassy woodland. Other species such as *Eucalyptus exserta, E. tereticornis, C. tessellaris, C. citriodora* may be present in low densities.	5.46	0.00
12.12.12 (OC) (koala) (9h)	*Eucalyptus tereticornis, E. crebra* (sometimes *E. siderophloia*) open-forest to woodland. Other species present can include *Eucalyptus melanophloia*	195.14	152.68
12.12.19 (OC) (29a)	Vegetation complex of exposed rocky headlands. Vegetation types include *Themeda triandra* grassland and wind-sheared shrubland and woodland. This RE was found not to be present the site consists of regrowth 12.12.7.	0.29	0.21
12.12.28 (OC) (13d)	*Eucalyptus moluccana* ± *E. crebra, Corymbia citriodora* openforest or woodland. Occurs on broad ridges and lower slopes on Mesozoic to Proterozoic igneous rocks.	0.15	0.00

4.3 Reduction in Population

The reduction in footprint prompts a slight reduction in the target population for the project compared to HHID (see Section 3.3). As both HHID and the project contained mitigation measures to prevent human access to environmentally sensitive areas, this is not likely to result in any significant reduction in impacts associated with human presence on HHI (see Section 8.4.8 of the PTP EIS for a more detailed assessment of potential impacts of human activity).

4.4 Relocation of the Golf Course

Relocation of the golf course is expected to enhance east-west movement of terrestrial birds and ground-dwelling fauna through PTP. As discussed in Section 8.3.4 of the PTP EIS, the golf course design will include retention of existing vegetation where possible and landscaping with native plants such that vegetated strips of 20-50 m wide are retained. Habitat features such as rocks and salvaged logs will also be provided to enhance shelter provision within this habitat. The water management ponds will include access points for animals.

For both HHID and PTP, the golf course plays a key role in water management, as explained in Section 8.5.6 and 8.5.7 of the PTP EIS. Water storage ponds at the golf course will store treated wastewater and irrigation of the golf course with treated wastewater will maintain the water balance. The MEDLI model (Modelling Effluent Disposal to Land Irrigation) was used to check that the overall objective of zero discharge of treated wastewater could be achieved given the dominant soil types in the new location of sandy loam soils and sandy soils. This modelling concluded that a fully enclosed water management system could be achieved with a balancing storage capacity of 100ML. Further information is provided in Section 8.5.6 and Appendix D of the PTP EIS.

Hence, the relocation of the golf course in the project does not increase potential impacts on the environment, and may slightly enhance connectivity and permeability of the project to fauna compared to HHID.

4.5 Boat Ramp

Two changes have occurred in relation to the boat ramps at the project compared to HHID; the proposed boat ramp at Colosseum Inlet has been removed and, due to a condition of approval under the EPBC Act, access to the boat ramp at Boyne Creek is to be restricted to guests at PTP. This may have the effect of slightly reducing recreational boating activity in the waters around HHI, although it must be noted that there are existing boat ramps and informal launching points already available that will remain available to the general public. As the need to minimise impacts of recreational activities on the environment will be a key message provided to all guests and visitors at PTP, this may mean that guests and visitors are more aware of how to minimise their impacts compared to the broader public.

These changes may therefore reduce potential impacts associated with recreational boating. Note however that the mitigation measures, monitoring and corrective actions identified in both HHID and the project will still be implemented in full (see Sections 8.5.15, 8.5.16, 8.5.18, 8.7.3, 8.7.4, 8.7.6 and 8.8.4 of the PTP EIS).

4.6 Building Heights

The assessment of visual impact undertaken for the project was based on building heights of up to 13.5 m in the Tourism Precinct (see Appendix 3 for the precinct plan contained in the PoD), with the caveat that building heights would always be kept below the ridgeline and/or tree canopy when viewed from the GBRWHA (See Section 8.9 and Table 8.19 of the PTP EIS). As this building height was allowed by the EPBC approval for PTP, the proponent seeks to increase building heights to match in the change report.

Given the commitment to ensure that building heights remain below the ridgeline and/or tree canopy height, this change is not expected to have any additional impact on visual amenity from any viewer viewpoint.

4.7 Offsets

As there have been significant changes in Queensland offset policy requirements since 2011, a revised (draft) offset policy has been prepared for the project that reflects the changes in offset policy requirements, the slight reduction in impacts on regional ecosystems associated with the reduced footprint and some recalculations of areas of REs to be disturbed in consultation with DNRM (see also Section 4.1). This is provided in Appendix 4.

Conditions 24 and 25 of the EPBC Act approval require the proponent to prepare a Heritage Values Management Strategy that, among other things:

- Provides a contribution to the Reef Trust or other suitable entity to improve intertidal habitats in Colosseum Inlet and Boyne Creek
- Protects and manages 350 ha of land in the Baffle Creek catchment with the intention of achieving improved protection of the World Heritage values of the adjacent GBRWHA.

It is expected that where environmental values of offsets required under the Queensland offset policy are compatible with the requirements of conditions 24 and 25 of the EPBC Act approval, that offsets will be co-located.

4.8 Effects on Stakeholders

As HHI is undeveloped and has no current use, and surrounding areas have low levels of development, there are few stakeholders who are directly affected by either HHID or PTP. The changes proposed do not introduce any new stakeholders as, with the exception of removing the boat ramp on Colosseum Inlet, all changes take place within the SL and the overall development footprint is reduced, not increased.

The changes from HHID to the project have not increased any impacts of the development, and in fact reduced some impacts. It is therefore unlikely that existing stakeholders would have any additional concerns regarding PTP.

Removal of the boat ramp at Colosseum Inlet and restriction in access to the boat ramp on Boyne Creek might concern recreational fishers and boaters in the area who may have anticipated improved access to the waters surrounding HHI. However, it should be noted that there are still

existing launching points to the area, and hence the disadvantage to recreational boaters and fishers may not be significant.

It should also be noted that the PTP Draft EIS was released for public comment in accordance with the requirements of the EPBC Act from 16 December 2013 to 24 January 2014. Public notices were placed in the Australian and Gladstone Observer newspapers informing the public of the display period and contact details for submissions. Access to the Draft EIS was made available as follows:

- at the State Library of Queensland, Cultural Centre, Stanley Place, South Bank Brisbane
- at Gladstone Regional Council (GRC) offices, Goondoon Street, Gladstone
- The Draft EIS was available for download at http://www.pacificus.com.au
- Printed copies of the Draft EIS were made available for purchase and electronic copies were made available free of charge and could be obtained by telephoning a free-call number, or emailing an information request to the proponent.

Two submissions were received: from the GRC and Dillons Lawyers on behalf of the Port Curtis Coral Coast registered native title group. These submissions noted some issues relating to implementation of the project and requested the proponent to contact the submitters regarding these issues when the project proceeded to implementation. The submitters did not identify any impacts on MNES that had not already been addressed in the EIS. The proponent's evaluation of the submissions did not lead to any changes in overall conclusions as to the significance of impacts on MNES and World Heritage Area values, nor were any additional mitigation measures required to address concerns. The submissions and the proponent's response is provided in in Appendix J of the PTP EIS.

http://www.pacificus.com.au/wp-content/uploads/2015/11/ptp-j-submissionsandresponses.pdf)

5. Legislative and Approvals Requirements

5.1 Changes to Subsequent Approvals Triggered by the Requested Changes

The requested changes do not trigger any additional environmental and planning approval requirements. The requested changes are consistent with policies, plans and guidelines associated with the various approval requirements.

5.2 Changes to Subsequent Approvals Arising from Changes in Legislation and Policy since February 2011

An evaluation of changes in approvals requirements since the HHID CoG's report was issued is provided in Appendix 5. Only changes in *Sustainable Planning Act 2009* and related IDAS approvals are addressed in Appendix 5. In summary, changes that materially affect subsequent approvals required for either HHID or the project are as follows:

- State planning policies (SPP) 1/92 - Development and the Conservation of Agricultural Land, 2/02 - Planning and Managing Development Involving Acid Sulfate Soils and 2/03 - Mitigating the Adverse Impacts of Flood, Bushfire and Landslide have been replaced by the State Planning Policy which sets out State interests in a range of policy areas. All aspects of the SPP has been incorporated into the Gladstone Regional Council Planning Scheme and no separate assessment of the SPP is required.
- A requirement for Operational Works approval (operational work that is high impact earthworks in a wetland protection area) has been added since 2011. Mapping obtained from the Department of Environment and Heritage Protection (DEHP) indicates that some works required for both HHID and the project are within buffer areas for high ecological value wetlands and hence this approval may be triggered. Note that the presence of these wetlands was discussed in the HHID EIS, together with measures to protect them from indirect impacts during construction and operation.
- The State Coastal Management Plan and Curtis Coast Regional Coastal Management Plan 2003 have been replaced by the Coastal Management Plan which commenced in March 2014. It is a non-regulatory document so therefore does not trigger any approval requirements for the project.
- State coastal mapping and erosion prone areas - changes to the width of the erosion prone area occurred in February 2016 resulting in an increased the erosion prone area and impacting on the development lease boundary. The mapping changes, the impact on the development lease and the site-specific analysis undertaken of the currently designated erosion prone area widths and the actual site specific erosion prone width are addressed further in Section 5.3.
- There have been several changes to triggers for permit requirements under the *Nature Conservation Act 1992* since 2011, however no new permit requirements have been added. The current system for clearing of protected plants is that if a site is identified as having high risk areas for protected plants, a detailed vegetation assessment is required, and if protected plants are identified, an approval is required. Hummock Hill Island is not mapped as having any high risk areas, however the proponent has committed to undertaken pre-clearing surveys for protected plants, and hence may still require this permit.

The Miriam Vale Planning Scheme has been replaced by the Gladstone Regional Council Planning Scheme. HHI is designated rural. A revised PoD for the project has been prepared in accordance with the new Gladstone Regional Council Planning Scheme (See Section 3.8 and Appendix 3).

5.3 Coastal Management District and Erosion Prone Mapping

5.3.1 Changes to the Coastal Management District and Erosion Prone Mapping

On 2 February 2016, the government formally adopted changes to the coastal management district (CMD) designations and erosion prone mapping. The CMD defines an area where the Department of Infrastructure, Local Government and Planning has assessment manager or referral agency powers and responsibilities to assess certain development applications under the *Sustainable Planning Regulation 2009*. DEHP is a technical advice agency to the Department of Infrastructure, Local Government and Planning for a development proposal in a CMD. Under the revised mapping, all of HHI is now shown within the CMD.

Amendments to the erosion prone mapping also occurred in February 2016 to include the impact of a predicted 0.8m sea level rise by 2100 as a consequence of climate change. Erosion Prone Areas are now defined in the DEHP Coastal Hazards Technical Guideline as follows:

On land adjacent to coastal waters the landward boundary of the erosion prone area shall be defined by whichever of the following methods gives the greater erosion prone area width:

1. *Erosion prone areas are deemed to exist over all tidal water to the extent of Queensland coastal waters and on all land adjacent to tidal water.*
2. *Erosion prone areas include areas subject to inundation by the highest astronomical tides (HAT) by the year 2100 or at risk from sea erosion.*
3. *On land adjacent to tidal water the landward boundary of the erosion prone area shall be defined by whichever of the following methods gives the greater erosion prone area width:*
    a. *a line measured 40m landward of the plan position of the present day HAT level except where approved revetments exist in which case the line is measured 10m landward of the upper seaward edge of the revetment, irrespective of the presence of outcropping bedrock;*
    b. *a line located by the Erosion Prone Area Width Assessment Formula and measured, unless specified otherwise, inland from:*
        i. *the seaward toe of the frontal dune (the seaward toe of the frontal dune is normally approximated by the seaward limit of terrestrial vegetation or, where this cannot be determined, the level of present day HAT); or*
        ii. *a straight line drawn across the mouth of a waterway between the alignment of the seaward toe of the frontal dune on either side of the mouth*
    c. *the plan position of the level of HAT plus 0.8m vertical elevation.*

Except:

i. *where the linear distance specified in 3b is less than 40m, in which case section 3a does not apply and the erosion prone area width will be the greater of 3b and 3c; or*

ii. *where outcropping bedrock is present and no approved revetments exist, in which case the line is defined as being coincident with the most seaward bedrock outcrop at the plan position of present day HAT plus 0.8m; or*

iii. in approved canals in which case the line of present day HAT applies, irrespective of the presence of approved revetments or outcropping bedrock.

The declared width of the erosion prone area on HHI, for the beach adjacent to the PTP, is 120m, as shown on DEHP's Erosion Prone Area mapping (Plan No GLR3A).

5.3.2 PTP Lease and Development Area

The boundary of both the Development Lease and development is determined by the delineation of the erosion prone area. Since the actual boundary needs to be defined, Eaton Place Pty Ltd commissioned specialist coastal engineers, Water Technology Pty Ltd, to undertake a site-specific analysis of the currently designated erosion prone area widths and to determine the actual erosion prone width at the project site. The analysis used techniques required by DEHP in its guidelines "Coastal hazard technical guide: Determining coastal hazards".

The Study is provided as Appendix 9 of this application and concludes that:

- 80m width should be adopted as the Erosion Prone Area along the sand beach frontage west of the headland to define the development boundary - superseding the currently designated 120m width indicated on GLR3A Map 6.
- The Erosion Prone Area width should also be determined by the current position of the present day HAT plus 0.8m; the 2.91m AHD contour line around the rocky seaward face of the headland - superseding the currently designated 75m width indicated on GLR3A Map 6.

The study also confirmed that the peak 100 year Average Recurrence Interval storm surge level at HHI in the year 2100 will be 3.45m AHD, corroborating the findings of the EIS that minor filling will be required of some areas of the site behind the Erosion Prone Area to attain the required levels for project infrastructure and building platforms.

5.3.3 Consultation with DEHP

A meeting was held with staff from DEHP to present the methodology and findings of the Water Technology Pty Ltd study. The final report was submitted to DEHP to obtain the Departments agreement to the proposed Erosion Prone Areas adjacent to the development site. It was agreed that DEHP should amend the Coastal Hazard mapping on HHI to reflect the results of the site specific study.

5.3.4 Recommended Condition Wording

Condition 3 of Appendix 1 Schedule 2 of the CG's Report currently states:

> *No development, other than construction of the bridge, public boat ramps, service infrastructure, pedestrian access to the beaches and lifesaving structures, is to occur within the erosion prone area indicated in DERM's Erosion Prone Area Plan SC 3378 (or updated version) or within the storm tide hazard area defined by the planning scheme and the State Coastal Management Plan Guideline Mitigating the Adverse Impacts of Storm Tide Inundation or subsequent amendments to the State Coastal Management Plan.*

The requested revised wording of Condition 3 is:

> *No development, other than construction of the bridge, public boat ramps, service infrastructure, pedestrian access to the beaches and lifesaving structures, is to occur within the erosion prone area as determined by DEHP in accordance with the site-specific erosion study completed for Hummock Hill Island by Water Technologies Pty Ltd. Areas of the development outside this erosion prone area are permitted to be filled to ensure that they are safe from inundation during the 100 year Average Recurrence Interval storm surge.*

This proposed change to the condition has been reflected in the conditions contained in Appendix 7.

5.4 Central Queensland Regional Plan

The Central Queensland Regional Plan commenced on 18 October 2013 and includes the GRC Local Government area. The plan identifies the State's interest in regional land use planning through identifying regional outcomes and policies and the intent for future spatial structure of the region.

Local planning instruments are required to reflect the regional plan. Those that are applicable to the project are Chapter 5 of the Regional Plan which identifies priority outcomes for infrastructure and Chapter 6 which details state interests relevant to land use planning in the region. Information contained in both chapters is intended to assist local government in the preparation of, and amendment to, their planning scheme. The Infrastructure Priority Outcomes and their relevance to the project are addressed in Table 5-1. State interests identified in Chapter 6 of the Regional Plan and their applicability to the project are addressed in Table 5-2.

HHI does not contain any mapped Priority Agricultural Land or Priority Living Areas.

Table 5-1 Regional Plan Priority Outcomes Applicability to PTP

Priority Outcome	Applicability to The Project
Transport Networks	
Prioritising transport programs to improve freight networks including those affected by growing and changing demands related to the surrounding coal basins	Not applicable to the project on HHI
Improving the reliability and condition of transport networks affected by population and resource sector growth and the networks' resilience during natural disasters	Clarks Road provides the single road access to the coast adjacent to HHI with the access from the mainland to the island provided by a causeway. Upgrading of the access road is required as the point of access to HHI. Upgrading of this road and the provision of a bridge to HHI will improve the condition of this road and provide all tide access to the island. This upgraded access will provide for improved accessibility for emergency vehicles and for residents and visitors to evacuate the island if required.

Priority Outcome	Applicability to The Project
Better modelling and the identification of emerging transport issues	Not applicable to the project on HHI.
Achieving community benefits through improving accessibility to destinations and improved safety and amenity	The upgrading of Clarks Road will improve accessibility to the Bruce Highway for residents in the Foreshores area and to some extent Turkey Beach. In addition it will provide safe access to the visitors and residents of the project.
Electricity	
The priority outcome sought for electricity infrastructure is for the region to grow its energy generation capabilities through public and private sector investment. Investment should focus on reinforcing electricity generation and transmission/distribution systems where and when they are needed in response to forecast growth with consideration of energy efficiency efforts	The proponents are required to provide the required upgrades to electricity infrastructure to cater for the development. This supply will be provided from the mainland. The PoD identifies outcomes for the Residential and Tourist Precincts to ensure development is designed to incorporate sustainability measures to maximise energy efficiency. This carries through to the acceptable outcomes of the Hummock Hill Island Code
Water	
The priority outcomes sought for water infrastructure are, through public and private sector investment, to improve water access by addressing increasing demands from industry, agriculture and population growth and to achieve appropriate security and reliability of water supplies	The proposed water supply solution for the project is a permanent desalination facility which will be constructed by the developer and then transferred to GRC in accordance with the conditions detailed in the CoG report and in the infrastructure agreement that will be entered into with GRC. This facility will be provided at no cost to GRC and will provide water to the intended ultimate development. In addition, the HHI water supply will be augmented with rooftop capture and storage and third pipe reticulation of Class A+ treated waste water for non-potable use. This facility in combination with the associated infrastructure will provide water security for the PTP.
Community Infrastructure	
Support community infrastructure needs including optimising the use of existing assets to improve community liveability and induce non-resident workers to relocate to the region	The PTP PoD provides for a mix of development catering for both tourists and residents, including workers at PTP. The plan also allows for the provision of a range of community infrastructure that will not only provide for the project visitors and residents but also residents of the wider region, in particular the small communities of Turkey Beach and Foreshores.
Advocate and attract telecommunication infrastructure investments to support industry productivity innovations through technology	While specifically addressed through the PoD, the project will provide the latest in telecommunications infrastructure to support all forms of development proposed.

Table 5-2 Regional Plan State Interests Applicability to PTP

State Interest	Applicability to PTP
Housing and Liveable Communities	
• The region is likely to experience further increases in the non-resident population given the expected future expansion in the resources sector • Strong population growth combined with limited availability of smaller and less costly housing options has resulted in parts of the region experiencing housing affordability issues • Meeting the demand for new dwellings presents the opportunity to broaden the range of housing options available across the region and to provide more choice and affordability	The project will provide accommodation and housing options for both residents and visitors. This is reflected in the PoD where a range of housing styles and affordability levels are proposed. The mix of resident and short term accommodation is dictated by both the requirements of the CoG's recommendations, in particular recommendation 1, and the Development Objectives detailed in Section 1.1 and the overall outcomes of the HHI Code detailed in Section 3.2.3 of the PoD.
Economic Growth	
Development and Construction • A sufficient supply of developable land for industry is critical • Supply and demand studies seek to ensure there is adequate land available in locations which can align with efficient connectivity to transport, infrastructure and services to facilitate practical access and use for industrial needs.	Not applicable to the project as the development is tourism focused and does not provide industrial land.
Tourism • There is an opportunity to build on this range of tourist experiences to further diversify the Central Queensland tourism sector and ensure long-term economic sustainability • Road safety facilities and infrastructure as well as strategically located accommodation facilities will be required to improve tourism outcomes • Coastal and island environments provide an opportunity for expanded tourism activities and accommodation, but also a challenge to sensitively plan for developments that provide for appropriate avoidance and mitigation of environmental impacts.	The project is a new tourism development that assists in diversifying and strengthening the Central Queensland tourism sector. The development will be supported by all required infrastructure provided through a combination of island based facilities and services provided from the mainland (e.g. waste collection and electricity). These along with an upgraded access road will provide the required facilities and infrastructure to support the needs of the development. The project development footprint has been reduced from that contained within the HHID to provide increased protection to sensitive environmental areas. The overarching objective of protecting the environmental values of HHI has also been captured through the restriction of land uses through the nomination of precincts in the PoD and the provisions of the project Code. In addition, the PoD includes Urban Design and Environmental Guidelines which are to be applied in conjunction with the codes.
Environment and Heritage	
Biodiversity • Connectivity between existing protected areas	The project provides for the retention of the area on HHI outside the development footprint as a protected area under the QLD Nature Conservation

State Interest	Applicability to PTP
such as those extending from north of Blackwater to beyond the southern border of the region, provide opportunities to support wildlife corridors • The environmental, economic and social values from maintaining and enhancing biodiversity are important in realising economic growth and job creation opportunities in the region • The challenges to the retention of high biodiversity values in the region are severe weather events (for example, flooding, drought and bushfires which degrade habitat and can contaminate waterways); industrial and resources development; demand for coastal developments to accommodate population growth; and agricultural production.	Act. The change in footprint of the proposed project also means that there is a change in footprint of the proposed conservation area, since the conservation area is intended to cover the balance of HHI. Hence, the conservation area has increased by 53ha, however the principle remains the same, that is, the balance of HHI will be managed as a conservation area. This has been reflected in the development boundary of the PoD and in the Precincts nominated for development. The development boundary reflects the EPBC Act approval which considered MNES. The environmental measures required to be implemented through this approval along with the requirements of the Queensland Government will adequately manage the natural features of HHI and there interface with the proposed development.
Coastal Environment • Coastal habitats provide a significant natural asset for the region. Appropriate planning and development frameworks will ensure that future development does not diminish the ability of the natural coastal environment to continue to contribute to tourism and recreational activities that support the regional economy • Pressure for expanded development in coastal areas is an emerging challenge as the region's population grows	The proposed project will provide improved accessibility to the foreshore and coastal features present on HHI. The form of development and layout will ensure that appropriate setbacks to foreshore areas are provided and access to the beach is managed to minimise environmental impacts and to protect infrastructure from coastal processes.
Healthy Waters • Addressing salinity will be necessary to maintain and enhance agricultural production in the region over the long-term • Continued monitoring will provide information on the condition of water entering the Great Barrier Reef and can assist in land use planning across the region • The health of waterways is pivotal to the prosperity of the region. Opportunities for protecting water quality are closely linked to investment in the protection of ecological health of estuarine ecosystems and wetlands across the region.	Both HHID and the project have stormwater management systems that are designed to ensure minimal change to quality and quantity of stormwater runoff from the development footprint. Both HHID and the project have a zero discharge water and wastewater management system. Hence, no change in water quality in the intertidal and subtidal areas is expected. Further information on potential impacts of the project on water quality is provided in Section 8.5 of the PTP EIS.
Cultural Heritage • Developing links across the region on cultural heritage themes can support region-wide tourism opportunities • Changes in land use and certain development can threaten valued heritage and landscapes	A Cultural Heritage Management Plan has been compiled and approved by DNRW on 17 January, 2007. An Aboriginal Cultural Heritage Centre is proposed for the PTP. This land use has been identified within the Community and Island Services Precinct of the PoD. The proponent has also committed to

State Interest	Applicability to PTP
	working with traditional owners in ongoing management of environmental values of HHI.
Hazards and Safety	
Natural Hazards • The challenge for the Central Queensland region is to avoid, mitigate or minimise the adverse impacts of flooding on rural and urban communities, as well as transport corridors and critical infrastructure to avoid disruption to businesses and communities • There are also opportunities to ensure that future development is avoided in areas with high exposure to natural hazards • Development should also be avoided where its location or form may unreasonably increase flood risk elsewhere • Risk reduction strategies can also be integrated into development policies in order to mitigate or adapt to natural hazards and enhance the resilience of communities throughout the region	Provision of a bridge and upgraded road access to HHI will provide for improved accessibility and critical infrastructure for the proposed PTP. Infrastructure provided on the island will be sited to ensure impact from natural hazards such as flooding are minimised. The layout of the development, as reflected in the PoD precincts, will ensure that areas are protected from natural hazards. This will be accompanied by appropriate earthworks and setbacks.

5.5 Compatibility with Surrounding Land Uses

HHI is undeveloped and has no current use. The adjacent mainland predominately comprises of Rural and Rural Residential development centred on Turkey Beach and Foreshores. These existing areas have limited facilities and are reliant on other centres for the provision of community services. The project will provide a range of facilities that will also cater for the nearby population improving accessibility for those residents.

While the nature of development on HHI will differ from that on the mainland, both the physical separation and that nature of PTP, being a self-contained development, will ensure there are no land use conflicts. Following the development of the project future development opportunities on HHI will be restricted by both the protection of land for conservation purposes and through the provisions of the Plan of Development for the project development area. The project Plan of Development will operate as the land use planning mechanism for the development area, defaulting to the planning scheme provisions for uses not envisaged as part of the PTP. The proposed conservation intent of the balance of the island outside of the development area does not provide future development opportunities.

Both the development footprint and the sustainability focus of the development, reflected through PoD provisions will provide for a suitable interface between the adjacent natural areas and the development.

6. Revised Conditions and Recommendations

6.1 Changes to Conditions of Approval Triggered by Changes to the Development Proposal

The following conditions require revision as a result of the changes from HHID to PTP:

- Appendix 1 - Schedule 1 (CoG's Conditions)
  - Condition 7 - change to reflect permanent rather than temporary desalination plant
  - Condition 8 - This condition can be deleted as it is no longer proposed to have a waste transfer station; instead trucks will be provided to transfer solid waste and recyclables from households and businesses on the island and transport it directly to the GRC solid waste landfill at Benaraby
  - Condition 15 - change to reflect the requirements of the current Queensland Environmental Offsets Policy Version 1.1 (2014). The offset package for HHID that was agreed with the CoG and with DERM in 2011 is detailed in Section 4.5.4 - Mitigation measures—terrestrial ecology) and Appendix 4 of the CoG's Report. The proposed offsets met the Department of Environment and Resource Management, Policy for Vegetation Management Offsets, version 2.4 (Department of Environment and Resource Management, Brisbane, 2009, viewed 20 December 2010).
  - Condition 21- The proponent requests that the ASS MP be prepared in a staged fashion, that is, as each precinct is developed, rather than a single ASSMP for the entire development.
- Appendix 1 - Schedule 2 - GRC Conditions
  - Condition 1 - reference to the precinct plan has been updated, the area of the development has also been updated
  - Condition 3 - reword to state that the Erosion Prone Area is determined by the approved site-specific erosion study
  - Condition 4 - Updated to reflect current PoD
  - Condition 5 - Reference to 3 and 4 star designations has been deleted as there is no formal definition of these, hence the reference is redundant
  - Condition 8 Reference to a pipeline in relation to water supply system has been removed. Boat ramps has been changed to boat ramp (singular)
  - Condition 15 - Reference to Colosseum Inlet boat ramp has been removed, change ramps to ramp
  - Condition 18 - Delete part (a) as GRC has indicated that it will not be extending its water supply system in the foreseeable future
  - Condition 19 - Condition reworded to reflect that the desalination plant will provide for permanent water supply for the project
  - Condition 34 - building height has changed to a maximum of 13.5m and 3 storeys in height for some development in the Tourist Precinct. Also, reference to colorbond has been deleted as this is a brand name.
- Recommendations:

- Recommendation 1 - development numbers changed to reflect the project rather than HHID
- Recommendation 6 - change ramps to ramp (singular).

- Note that the term HHID also requires changing to the project in a number of conditions.

6.2 Changes to Conditions of Approval Arising from Changes in Legislation and Policy since February 2011

- Appendix 1 - Schedule 1 (CoG's Conditions)
  - Conditions 5, 6, 15, 17, 21 - updated reference to guidelines
  - Condition 16 - updated to reflect current approach to permitting for removal of protected plants under the *Nature Conservation Act 1992*.
- Appendix 1 - Schedule 2 - GRC Conditions
  - Condition 1 - amendments suggested to update definitions
  - Condition 20, 22, 23, 24 - - updated reference to guidelines and policies.

7. Supporting Information to Assist Assessment of a Preliminary Approval

Further supporting information has been requested by GRC in relation to preliminary approval for the PoD. This information is provided in Appendix 8.

Hummock Hill Island

Pacificus Tourism Project

Appendix 1 EPBC Act Decision Notice and Approval

Approval

PACIFICUS TOURISM PROJECT, HUMMOCK HILL, QUEENSLAND (EPBC 2012/6643)

This decision is made under sections 130(1) and 133 of the *Environment Protection and Biodiversity Conservation Act 1999*.

Proposed action

person to whom the approval is granted	Eaton Place Pty Ltd
proponent's ACN	ACN - 110 480 772
proposed action	To undertake a tourism, residential and commercial development with associated infrastructure on Hummock Hill Island, 30 kilometres south east of Gladstone in Queensland; as described in the referral received by the Department on 20 November 2012 [See EPBC Act referral 2012/6643].

Approval decision

Controlling Provision	**Decision**
World Heritage properties (sections 12 & 15A)	Approved
National Heritage places (sections 15B & 15C)	Approved
Listed threatened species and communities (sections 18 & 18A)	Approved
Listed migratory species (sections 20 & 20A)	Approved
Great Barrier Reef Marine Park (sections 24B & 24C)	Approved

conditions of approval This approval is subject to the conditions specified below.

expiry date of approval This approval has effect until 31 July 2035.

Decision-maker

name and position	The Hon Greg Hunt MP Minister for the Environment
signature	
date of decision	26:11:2015

Conditions attached to the approval

1. The proposed action must not occur outside of the development footprint as described in the **Final Environmental Impact Statement** and identified in Annexure 1.
2. The **approval holder** must submit to the **Minister** for written approval a Consolidated Master Plan for the **Pacificus Tourism Project**.
3. The Consolidated Master Plan must:
    a. be a single document;
    b. be limited to the **project components** contained in the **Final Environmental Impact Statement**;
    c. contain the following information:
        i. diagrams and text detailing the layout and design features of all components of the precincts as defined in the **Final Environmental Impact Statement;**
        ii. timeframes for implementing the Plan;
        iii. details of measures to limit access to the boat ramp to only the residents of Hummock Hill Island and guests staying on Hummock Hill Island;
        iv. a map identifying **sensitive areas** outside of the development footprint; and
        v. details of measures to limit access to identified **sensitive areas** to only persons authorised in the approved Conservation Area Management Plan.
4. The **approval holder** must not **commence the action** until the Consolidated Master Plan has been approved by the **Minister** in writing.
5. The **approval holder** must implement the approved Consolidated Master Plan.

6. The **approval holder** must submit to the **Minister** for written approval a Wildlife Habitat Management Plan for the **Pacificus Tourism Project**.
7. The Wildlife Habitat Management Plan must:
    a. specify the predicted **impact** of the **Pacificus Tourism Project** development on each **matter of national environmental significance**;
    b. provide details of the mitigation measures, as described in the **Final Environmental Impact Statement**, monitoring measures and adaptive management measures that will be implemented to achieve a **net benefit** for each **matter of national environmental significance**;
    c. state the outcomes to be achieved for each **matter of national environmental significance** impacted by the action;
    d. provide timeframes for achieving the outcomes identified in condition 7(c);
    e. contain a map clearly defining a buffer zone 100 metres wide around the perimeter of the **Pacificus Tourism Project** development footprint and 80 metres wide at the headland; and

f. describe the consultation that was undertaken to develop the program, including with Indigenous people whose rights, claims or interests may be affected by the development.

8. The **approval holder** must not **commence the action** until the Wildlife Habitat Management Plan has been approved by the **Minister** in writing.

9. The **approval holder** must implement the approved Wildlife Habitat Management Plan.

10. The **approval holder** must submit to the **Minister** for written approval a Water Quality Management Plan for the **Pacificus Tourism Project** that provides for the monitoring and management of groundwater, surface water, potable water supply, wastewater, storm water, harvested water, treated water and sewage and any other effluent.

    The Water Quality Management Plan must:

    a. be prepared by a **suitably qualified person**;

    b. apply best practice water quality assessment, as per the *National Water Quality Management Strategy, Water Quality Guidelines for the Great Barrier Reef Marine Park* and the Queensland Water Quality Guidelines 2010 or most recent version/s of these guidelines;

    c. provide a minimum of 12 months water quality baseline data (including but not limited to, pH, temperature, nutrients and suspended solids) for groundwater, surface water and any waters that could be affected by proposed discharge of wastewater and other effluent;

    d. provide details of mitigation measures, as described in the **Final Environmental Impact Statement**, monitoring measures and adaptive management measures to ensure a **net benefit** to water quality from Hummock Hill Island entering Colosseum Inlet, Boyne Creek, Rodd's Bay, the Great Barrier Reef World Heritage Area and Great Barrier Reef Marine Park; and

    e. describe the consultation that was undertaken in developing this program, including with Indigenous people whose rights, claims or interests are affected by the development.

11. The **approval holder** must not **commence the action** until the Water Quality Management Plan has been approved by the **Minister** in writing.

12. The **approval holder** must implement the approved Water Quality Management Plan.

13. The **approval holder** must not irrigate or otherwise release potable water, wastewater, storm water, treated water, harvested water or sewage effluent on or from Hummock Hill Island unless the release complies with the approved Water Quality Management Plan.

14. The **approval holder** must not at any time construct or use an external outfall pipeline.

15. The **approval holder** must submit to the Minister for written approval a Marine Ecology Management Plan, covering all **facets** of the **construction** and **operation** of all **marine related activities** for the **Pacificus Tourism Project**. The Marine Ecology Management Plan must:

    a. provide details of mitigation measures, as described in the **Final Environmental Impact Statement**, monitoring measures and adaptive management measures to

achieve a **net benefit** for **listed marine species** and **listed migratory bird species** impacted by the action;

b. state the outcomes to be achieved for **listed marine species** and **listed migratory bird species** impacted by the action;

c. provide timeframes for achieving the outcomes identified in condition 15 (b);

d. outline a program of surveys to be undertaken by a **suitably qualified ecologist** on Hummock Hill Island beaches, to determine the nesting activity of the **listed migratory terns** and **listed turtle species;**

e. provide measures that will be implemented to protect **listed migratory terns** and **listed turtle species** if nesting habitat is identified; and

f. describe the consultation that was undertaken in developing the program, including with Indigenous people whose rights, claims or interests may be affected by the development.

16. The Marine Ecology Management Plan must be informed by the most current information available, including, but not limited to:

a. the Queensland State Policy for Coastal Management (at www.ehp.qld.gov.au/coastalplan/pdf/qcp-web-coastal-management.pdf); and

b. the Guidelines for the development of a Shoreline Erosion Management Plan (Queensland Department of Environment and Heritage at www.ehp.qld.gov.au/coastal/management/shoreline_erosion_management_planning.html).

17. The **approval holder** must not **commence the action** until the Marine Ecology Management Plan has been approved **Minister** in writing.

18. The **approval holder** must implement the approved Marine Ecology Management Plan.

19. The **approval holder** must submit to the **Minister** for written approval a Conservation Area Management Plan for the **Pacificus Tourism Project**.

20. The Conservation Area Management Plan must:

a. provide details of the world heritage values relevant to the Great Barrier Reef World Heritage Area that are found on Hummock Hill Island and that are to be restored in the **conservation area** (as identified in Annexure 1);

b. provide for monitoring, management actions and adaptive management measures that will result in a long-term **net benefit** to the **conservation area**, including but not limited to weed and pest management, habitat enhancement measures, rehabilitation and a monitoring program based on statistically robust on-ground surveying to ascertain effectiveness of the management actions proposed;

c. provide details of persons authorised to access **sensitive areas** identified at condition 3; and

d. describe the consultation that was undertaken in developing the program, including with Indigenous people whose rights, claims or interests may be affected by the development.

21. The **approval holder** must not **commence the action** until the Conservation Area Management Plan has been approved by the **Minister** in writing.

22. The **approval holder** must not **commence the action** until the **Minister** has agreed in writing to an agreement or arrangement whereby the **conservation area** identified in Annexure 1 will be managed and protected under relevant Queensland legislation for the duration of this approval.

23. The **approval holder** must implement the approved Conservation Area Management Plan.

24. The **approval holder** must submit to the **Minister** for written approval a Heritage Values Management Strategy for the **Pacificus Tourism Project** that is aligned with the broader strategies and programs of the **Reef 2050 Long Term Sustainability Plan**, prior to **commencement of the action**.

25. The Heritage Values Management Strategy must provide:

    a. details of a **contribution** provided to the **Reef Trust** or an entity or agency endorsed by the **Department** to improve intertidal habitats in Colosseum Inlet and Boyne Creek; and

    b. details of measures that will be implemented by the approval holder to protect and manage 350 hectares of land, to achieve improved protection of the World Heritage Values of the Great Barrier Reef World Heritage Area within the **Baffle Creek Catchment**. These measures must identify intended outcomes, benchmarks, readily measurable **performance indicators** and goals, timeframes for reporting and implementation, corrective actions and contingency measures, and specify the persons or roles with responsibility for implementing particular actions.

26. The funding identified in condition 25(a) must not be used by the **approval holder** to comply with any monitoring, management or mitigation measures required by the **Minister** in other plans or requirements specified in these conditions.

27. The **approval holder** must not **commence the action** until the Heritage Values Management Strategy has been approved by the **Minister** in writing.

28. The **approval holder** must implement the approved Heritage Values Management Strategy.

29. The **Minister** may require the **approval holder** to provide an arrangement in the form of a bond to ensure adequate funds are available for the protection of **matters of national environmental significance** including rehabilitation and repair required to decommission the project.

30. Should the **Minister** determine a bond is necessary as set out in condition 29, the **approval holder** must provide adequate justification for the scope of works required and costs associated to meet the objective defined by the **Minister** under condition 29. The **Minister** will determine the amount of the bond and advise this in writing. The **approval holder** must provide the bond within three (3) months of the **Minister** requesting a bond in writing.

    Note: If the Queensland Government requires a bond for matters described in condition 29, then condition 30 may not apply.

31. Every 12 months after the **commencement of the action**, unless otherwise agreed to in writing by the **Minister**, the **approval holder** must publish on its website all the survey

methodology and **survey data** collected and recorded for the plans and strategy, or other conditions specified in this approval including for each individual **matter of national environmental significance**.

32. The **approval holder** must notify the **Department** that it has published the material described in condition 31 within ten (10) business days of publication and provide a link to the website upon which it has been published.

33. The **approval holder** must publish the **Final Environmental Impact Statement** on its website within five (5) business days of the granting of this approval and ensure that the **Final Environment Impact Statement** remains published on its website for the duration of the approval.

34. All plans and strategies specified in the conditions (except the Consolidated Master Plan at condition 2) must be **independently peer reviewed** prior to submission to the **Minister**. The independent peer review report must be provided to the **Minister** at the same time the relevant plan and/or strategy is submitted for the **Minister**'s approval. The independent peer review report must be accompanied by evidence of the reviewer's/s' independence, and the criteria used to review the relevant plan or strategy. Each **independent peer review** must include an analysis of the effectiveness of the avoidance and mitigation measures in meeting the objectives, targets and management measures identified in the plan or strategy being reviewed.

35. To avoid duplication, the **approval holder** may provide the **Minister** with plans and strategies prepared for the State and/or an Authority provided the plans, and/or strategies meets the conditions specified in this approval. The plans and/or strategies must include a cross reference table that clearly identifies:

    a. the condition specified in the approval for which the plan or strategy is being provided; and

    b. the relevant folder, chapter, section number and page number in the plan or strategy where the condition has been addressed.

36. The **approval holder** must, within ten (10) business days after the **commencement of the action**, advise the **Minister** in writing of the actual date of commencement.

37. The **approval holder** must maintain accurate records substantiating all activities associated with or relevant to the conditions of approval, including measures taken to implement the plans and strategy required by this approval and make them available upon request to the Department. Such records may be subject to audit by the Department or an independent auditor in accordance with section 458 of the EPBC Act, or used to verify compliance with the conditions of approval. Summaries of audits will be posted on the Department's website. The results of audits may also be publicised through the general media.

38. Unless otherwise agreed to in writing by the **Minister**, the **approval holder** must publish, for the duration of the approval, each approved plan, strategy and independent peer review report referred to in these conditions of approval on its website. The **approval holder** must publish each plan and strategy (including revised versions) on its website within one (1) month of it being approved.

39. The **approval holder** must, within three months (3) of every 12 month anniversary of **commencement of the action** (and for the duration of the approval), publish a report on its website, addressing compliance with the conditions of this approval over the previous 12 months, including implementation of any management plans and strategy as specified in these conditions. The **approval holder** must provide the **Minister** with a copy of the report within 5 days after publication of the relevant report. All such reports must remain on the **approval holder**'s website for the duration of the approval.

40. Where the conditions require the **approval holder** to submit a plan and /or strategy for the **Minister**'s approval, the **approval holder** must maintain a register recording:

    a. the date on which each plan or strategy was approved by the **Minister**;

    b. if a plan or strategy has not been approved, the date on which it was, or is expected to be, submitted to the **Minister**;

    c. the dates on which reports on the outcomes of reviews have been approved by the **Minister**; and

    d. the dates by which subsequent reviews are due.

    The approval holder must publish the register on its website, at the time the annual compliance report is published.

41. The **approval holder** must report any contravention of the conditions of this approval to the **Department** within 2 business days of the **approval holder** becoming aware of the contravention.

42. Upon the direction of the **Minister**, the person taking the action must ensure that an independent audit of compliance with the conditions of approval is conducted and a report submitted to the Minister. The independent auditor and audit criteria must be approved by the **Minister** prior to the commencement of the audit. The audit report must address the criteria to the satisfaction of the **Minister**.

43. All plans and the strategy specified in the conditions (except the Consolidated Master Plan at condition 2) must be reviewed every three (3) years and any relevant information obtained from the surveys, monitoring and adaptive management measures undertaken up to the time of each review must be used to inform and if necessary update the plans or strategy.

44. The **approval holder** may choose to revise a management plan or strategy approved by the Minister under conditions 6, 10, 15 and 19 without submitting it for approval under section 143A of the EPBC Act, if the taking of the action in accordance with the revised plan or strategy would not be likely to have a **new or increased impact**. If the **approval holder** makes this choice it must:

    i. notify the **Department** in writing that the approved plan has been revised and publish it on its website, and provide the **Department** with an electronic copy of the revised plan;

    ii. implement the revised plan, program or strategy from the date that the plan is submitted to the **Department**; and

    iii. for the life of this approval, maintain a record of the reasons the **approval holder** considers that taking the action in accordance with the revised plan would not be likely to

have a **new or increased impact** and publish the current record on its website.

45. The **approval holder** may revoke its choice under condition 44 at any time by notice to the **Department**. If the **approval holder** revokes the choice to implement a revised plan without approval under section 143A of the Act, the **approval holder** must implement the version of the plan most recently approved by the **Minister**.

46. If the **Minister** gives a notice to the person taking the action that the **Minister** is satisfied that the taking of the action in accordance with the revised plan would be likely to have a **new or increased impact**, then:

    i. Condition 44 does not apply, or ceases to apply, in relation to the revised plan; and

    ii. The person taking the action must implement the version of the plan most recently approved by the **Minister**.

    To avoid any doubt, this condition does not affect any operation of conditions 44, and 45 in the period before the day after the notice is given.

47. At the time of giving a notice under condition 44 the **Minister** may also notify that for a specified period of time condition 44 does not apply for one or more specified plans required under the approval.

48. Conditions 44, 45 and 46 are not intended to limit the operation of section 143A of the EPBC Act which allows the person taking the action to submit a revised plan to the **Minister** for approval.

49. If, at any time after 5 years from the date of this approval, the **approval holder** has not **commenced the action**, then the **approval holder** must not **commence the action** without the written agreement of the **Minister**.

50. Unless otherwise agreed to in writing by the **Minister**, the **approval holder** must provide a copy of any management plans and strategies, referred to in these conditions of approval to members of the public upon request, within a reasonable time of the request.

Definitions:

Approval holder – The person to whom this approval is granted, or any person acting on their behalf, or to whom the approval is transferred under section 145B of the EPBC Act.

Baffle Creek Catchment – Scrubby Creek, Sandy Creek, Twelve Mile Creek and Worthington Creek sub-catchments of the Baffle Creek Basin as defined in the Queensland Government Department of Natural Resources Baffle Creek Basin Water Planning Area.

Conservation area – an area on Hummock Hill Island (identified in Annexure 1) that will be managed and protected under relevant Queensland legislation in order to restore the world heritage values relevant to the Great Barrier Reef World Heritage Area.

Construction – the construction of any infrastructure associated with the proposed action, including but not limited to the residential facilities, resorts, airstrip, recreation facilities, open space areas, golf course, boat ramp, landscaping, fencing, village, utilities and services area, and communal facilities.

Contribution – minimum of $144,000 (excluding GST) within 3 months of commencement of the action or equivalent amount indexed to the CPI.

Commence/d/ment of the action – the clearing of vegetation, or construction of any infrastructure, anchoring, airstrip, recreational areas, waste management, water treatment and sewerage treatment associated with **construction**. It does not include **preliminary works**.

Department – the Australian Government Department administering the *Environment Protection and Biodiversity Conservation Act 1999* (Cth).

Facet/s – aspect, phase or component of the **Pacificus Tourism Project**.

Final Environmental Impact Statement – comprises the Eaton Place Pty Ltd Pacificus Tourism Project Final Environmental Impact Statement (April 2014).

Independent peer reviewe/d – means an analysis undertaken by a person/organisation/technical committee, independent of the **approval holder** and any subsidiary company of the **approval holder** and with demonstrated expertise in the **protected matter(s)** relevant to the plan or strategy to be reviewed, which evaluates the effectiveness of any avoidance and mitigation measures in meeting the objectives, targets and management measures identified in each plan or strategy being reviewed.

Impact – as defined in section 527E of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth).

Listed marine species – Green Turtle (*Chelonia mydas*), Flatback Turtle (*Natator depressus*), Loggerhead Turtle (*Caretta caretta*), Hawksbill Turtle (*Eretmochelys imbricate*), Australian Snubfin Dolphin (*Orcaella heinsoni);* Indo-Pacific Humpback Dolphin (*Sousa chinensis);* and Dugong (*Dugong dugong*).

Listed migratory bird/s species –

Listed migratory species
Greater Sandplover (*Charadrius leschenaultii*)
Black-tailed Godwit (*Limosa limosa*)
Whimbrel (*Numenius phaeopus*)
Pacific Golden Plover (*Pulvialis fulva*)
Sharp-tailed Sandpiper (*Calidris acuminate*)
Red-necked Stint (*Calidris ruficollis*)
Little Curlew (*Numenius minutus*)
Lathams Snipe (*Gallinago hardwickii*)
Eastern Curlew (*Numenius madagascariensis*)
Common Sandpiper (*Acititis hypoleucos*)
Red Knot (*Calidris canutus*)
Curlew Sandpiper (*Calidris ferruginea*)
Great Knot (*Calidris tenuirostris*)
Lesser Sand Plover (*Charadrius mongolus*)
Bar-tailed Godwit (*Limosa lapponica*)
Grey Plover (*Pluvialis squatarola*)
Grey-tailed Tattler (*Tringa brevipes*)
Terek Sandpiper (*Xenus cinereus*)
Ruddy Turnstone (*Arenaria interpres*)
Cattle Egret (*Ardea ibis*)
Caspian Tern (*Hydroprogne caspia*)
Little Tern (*Sternula albifrons*)

Fork-tailed Swift (*Apus pacificus*)
White-throated Needletail (*Hirundapus caudacutus*)
Great Egret (*Ardea modesta*)

Listed migratory terns – Little Tern (*Sternula albifrons*) and Caspian Tern (*Hydroprogne caspia*).

Listed turtle species – Green Turtle (*Chelonia mydas*), Flatback Turtle (*Natator depressus*), Loggerhead Turtle (*Caretta caretta*), and Hawksbill Turtle (*Eretmochelys imbricate*).

Marine related activities – includes upgrading or construction of the causeway, boat ramp and bridge, recreational facilities and activities, utilities and services area, waste, and boat anchoring associated with the Pacificus Tourism Project.

Matter of national environmental significance – those matters protected under the EPBC Act for which the approval has effect, namely, World Heritage properties, National Heritage places, listed threatened species and ecological communities, listed migratory species, and the Great Barrier Reef Marine Park.

Minister – the Minister administering the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) and includes a delegate of the Minister.

Net benefit – means demonstrable and sustainable additions to, or improvements to, the values of a **matter of national environmental significance** or their habitat (for example reduction to pre-existing threats), targeting, to the greatest extent possible, the biodiversity conservation values impacted by the development and operation of the action.

New or increased impact – new or increased impact on any matter protected by the controlling provisions for the action, when compared to the plan and or strategy that has been approved by the **Minister**.

Pacificus Tourism Project – includes the tourism, residential and commercial development infrastructure associated with the proposed action on Hummock Hill Island as described in the **Final Environmental Impacts Statement**.

Preliminary works – includes minor preparatory works associated with surveys for **matters of national environmental significance**; rehabilitation works or works associated with management of the conservation area; mobilization of plant equipment, materials, machinery and personnel prior to the start of **construction.**

Performance indicator/s – criteria against which achievement of the outcomes is to be measured

Project components – means the key design elements as described in section 2.3.3 of the **Final Environmental Impact Statement**.

Protected matter/s – means a matter protected under Part 3 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth).

Reef Trust – is an Australian Government initiative designed to improve reef health and resilience by taking the best available science and targeting investment to the highest priority threats to the Reef Trust. The Reef Trust is coordinated jointly between the Australian Government, including the Great Barrier Reef marine Park Authority and the Queensland Government (https://www.environment.gov.au/marine/gbr/reef-trust).

Reef 2050 Long term Sustainability Plan – means the *Reef 2050 Long-Term Sustainability Plan*, Commonwealth of Australia 2015.

Sensitive area/s – means any area that provides habitat for **matters of national environmental significance** as described in the **Final Environmental Impacts Statement**, including but not limited to **listed threatened turtle species, listed migratory terns**, **listed migratory bird species** and EPBC listed vulnerable Black-breasted Button-quail (*Turnix melanogaster)* and the EPBC listed critically endangered Littoral Rainforest and Coastal Vine Thickets of Eastern Australia ecological community and a buffer area sufficient to minimise impacts to them.

Survey data – information obtained from monitoring activities associated with plans specified by these conditions. Information from survey's must include, but not be limited to, name of species (common and scientific), time and day of survey, GPS location, number of individuals located, age class, habitat type, and EPBC Act listing status.

Suitably qualified ecologist – an ecologist with formal qualifications in ecology and with more than 5 years experience in undertaking targeted surveys, assessment and monitoring for Australian **listed threatened turtle species** and/or **listed migratory terns**.

Suitably qualified person – means a person who has professional qualifications, training, skills or experiences related to the nominated subject matter and can provide authorative assessment, advice, and analysis on performance relative to the subject matter using the relative protocols standards, methods or literature.

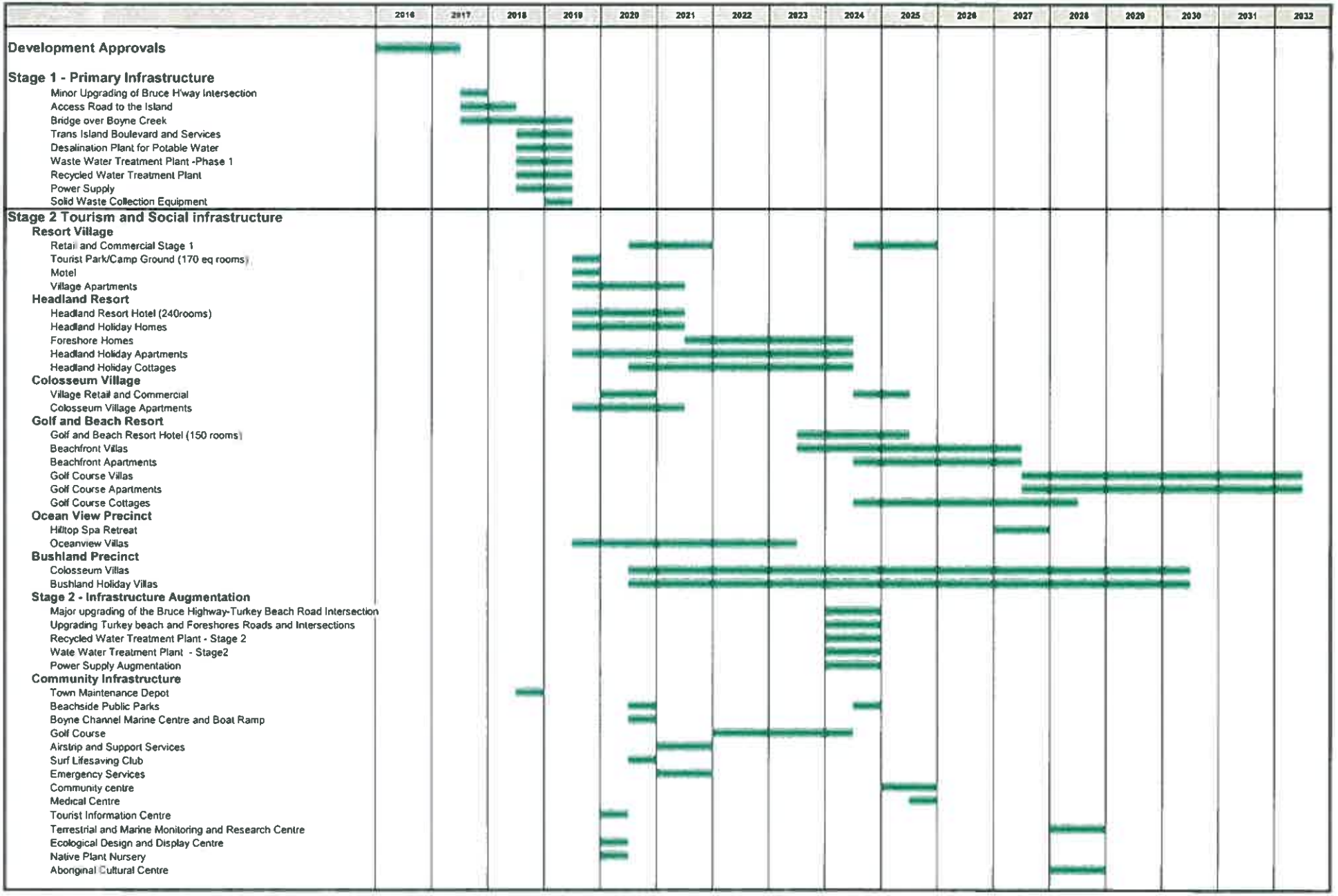
Annexure 1- Pacificus Tourism Project development footprint and Conservation Area.

Hummock Hill Island

Pacificus Tourism Project

Appendix 2 Development Schedule

Appendix 2 - Development Schedule



Hummock Hill Island

Pacificus Tourism Project

Appendix 3 Draft Plan of Development

PACIFICUS
TOURISM PROJECT

Pacificus Tourism Project on Hummock Hill Island

Plan of Development

PACIFICUS
TOURISM PROJECT

Table of Contents

1. Introduction

This document forms the Plan of Development for the Pacificus Tourism Project (PTP Plan of Development) on Hummock Hill Island setting out the assessment framework that will apply to the development. The document comprises the PTP Plan of Development – Level of Assessment Tables, the Hummock Hill Island Code, and the Hummock Hill Island Reconfiguring a Lot Code.

The PTP Plan of Development incorporates the definitions of the Our Place Our Plan Gladstone Regional Council Planning Scheme (the Planning Scheme) and references the relevant Planning Scheme codes.

1.1 PTP Plan of Development Objectives

The PTP is an integrated tourism and recreational development that will provide a high quality and affordable holiday destination for tourists and high quality recreational facilities for residents of the Gladstone region.

The development is a low-rise environmentally sustainable tourism and supporting residential community on Hummock Hill Island incorporating a range of tourist accommodation including resort hotels, holiday accommodation, camping grounds, as well as a wide range of recreational and leisure facilities. These facilities will be accessible to residents of Hummock Hill Island and adjoining communities, who currently lack easy access to these types of services. The PTP will also include an education/research centre and village precincts, beach access, an 18-hole golf course (for wastewater recycling), retail outlets, community facilities and public infrastructure.

The development has been designed to accommodate approximately 4000 people during peak holiday seasons. 30% of the accommodation on the island will be for permanent residents. Affordable housing will be developed to particularly cater to young people attracted to the island by opportunities to work in the tourism industry.

The overall development objectives for the PTP are that:

- The natural environment will be maintained, protected and enhanced so that areas and features of conservation significance are retained and the human population can enjoy living in close proximity to, and in harmony with the natural ecosystems.
- Social environment will be based on a vibrant, dynamic and diverse community that has a strong environmental awareness and is committed to sustainable living and self-development.
- Built environment will be appropriate to the scale of the development and the natural environmental setting.
- Infrastructure systems will be based on latest advances in sustainable living, but will be suitable for management and basic maintenance by the occupiers.

1.2 Application

The PTP Plan of Development applies to land contained within the PTP Development Area on Figure 1.

The PTP Plan of Development contains additional planning provisions to those set out in the Planning Scheme which vary the effect of the Planning Scheme. Where a conflict occurs with the requirements of the Planning Scheme, the PTP Plan of Development prevails.

The PTP Plan of Development should be read in conjunction with all applicable Australian Government and State Government legislative requirements.

1.3 PTP Plan of Development Structure

1.3.1 Land Use Precincts

The PTP Plan of Development is comprised of four land use precincts:

- **Residential Precinct;**
  - Residential Low/Medium Density Sub-Precinct
  - Residential High Density Sub-Precinct
- **Tourist Precinct;**
- **Community and Island Services Precinct; and**
- **Open Space and Recreation Precinct.**

For each of the Land Use Precincts the development components, unit numbers, gross floor area, and maximum building heights are provided in Table 1. The total gross floor area will not be exceeded; however the total number of self-contained units is approximate and may be varied by 10% to take account of market forces. The total number of accommodation units in the Residential Precinct will not exceed 30% of the total number of accommodation units within the development. The PTP Plan of Development Precincts are shown on Figure 1.

Table 1 Precincts and Development Type

Component	Total Unit Numbers	Residential Unit Numbers	Tourist Unit Numbers	GFA Total (m^2)	Maximum Building Height
Residential Precinct					
Residential Low/Medium Density					
Headland Holiday Homes	36	36		16,200	2 storeys and 8.5m
Foreshore Homes	64	64		28,800	
Beachfront Villas	50	50		22,500	
Golf Course Villas	80	80		36,500	
Golf Course Cottages	180	180		45,000	
Ocean View Villas	120	120		42,000	
Residential High Density					
Village Apartments	120	120		27,500	2 storeys and 8.5m
Colosseum Village Apartments	120	120		30,000	
Tourist Precinct					
Headland Resort Hotel	240		240	19,200	3 storeys and 13.5m
Headland Holiday Apartments	130		130	32,500	
Beachfront Tourist Hotel	150		150	12,000	
Beachfront Apartments	70		70	17,500	
Golf Course Villas	50		50	22,500	
Golf Course Apartments	230		230	57,500	

Component	Total Unit Numbers	Residential Unit Numbers	Tourist Unit Numbers	GFA Total (m^2)	Maximum Building Height
Headland Holiday Cottages	220		220	77,000	2 storeys and 8.5m
Beachfront Holiday Villas	170		170	76,500	
Bushland Holiday Villas	160		160	56,000	
Colosseum Villas	245		245	86,000	
Spa Retreat	20		20	5,000	
Motel	70		70	5,600	
Campground	170 sites		170		1 storey
Village Retail and Commercial				5,000	3 storeys and 13.5m
Colosseum Village Retail				2,500	2 storeys and 8.5m
Community and Island Services Precinct					
Life Saving Club				400	1 storey
Community Centre				1,200	2 storeys and 8.5m
Ecological Design Centre				1,200	
Tourist Information Centre				150	
Aboriginal Cultural Centre				800	
Terrestrial and Marine Centre				500	
Native Plant Nursery				150	
Boat Ramp					
Airstrip				250	
Open Space and Recreation Precinct					
Sport and Recreation Facilities				1,000	1 storey
TOTAL	**2,695**	**770**	**1,925**		

1.3.2 Level of Assessment Tables

The Level of Assessment Tables specify whether a proposed development is Exempt, or subject to Self-assessment, Code assessment or Impact assessment and the applicable codes for Self-assessment and Code assessment.

A use not included in the Level of Assessment Tables is subject to Impact assessment development, unless the development is exempt by virtue of the provisions of the *Sustainable Planning Act 2009* or subsequent Queensland land use planning legislation. A use not included in the PTP Plan of Development Level of Assessment Table will be subject to impact assessment and assessable against the Planning Scheme.

1.3.3 Codes

The PTP Plan of Development contains the Hummock Hill Island Code. For development assessment purposes, the Hummock Hill Island Code is applicable to all Self-assessment and assessable development within the PTP Development Area.

The PTP Plan of Development also makes codes contained within the Planning Scheme applicable to certain Self-assessment and assessable development.

EATON PLACE PTY LTD

PACIFICUS TOURISM PROJECT

PRECINCT PLAN: MAY 2016

SCALE 1:20000 @ A3

APPROVED FOR ISSUE BT

PROJECT NO: EATO0001

MLDesign

2. Level of Assessment Tables

2.1 Introduction

The Level of Assessment Tables specifies whether a proposed development is Exempt, Self-assessment, Code assessment or Impact assessment. The level of assessment for a use not included in the Level of Assessment Tables is Impact assessment and assessable against the Planning Scheme, unless the development is exempt by virtue of the provisions of the *Sustainable Planning Act 2009* or subsequent Queensland land use planning legislation.

2.2 Levels of Assessment

2.2.1 Exempt

Where a development is classified by the relevant Level of Assessment Table as exempt development no assessment is required from Gladstone Regional Council prior to the commencement of the use.

2.2.2 Self-assessment

Where a development is classified by the relevant Level of Assessment Table as Self-assessment development:

- No development approval is required from Gladstone Regional Council prior to the commencement of the use;
- The applicable acceptable outcomes of the relevant codes, as identified by and not in conflict with this PTP Plan of Development, apply to the development; and
- The approved PTP Plan of Development applies to the development.

Where development classified by the Level of Assessment Table as Self-assessment development but the development does not comply with the one or more of the applicable acceptable solutions of the relevant code, then the development becomes Code assessment development.

2.2.3 Code assessment

Where development is classified by the relevant Table of Assessment as Code assessment development:

- A development application for Code assessment development is required to be made to Gladstone Regional Council, and approved, prior to the commencement of the use;
- The applicable sections of the relevant codes, as identified by and not in conflict with this PTP Plan of Development, apply to the development; and
- The PTP Plan of Development applies to the development.

2.2.4 Impact assessment

Where development is classified as Impact assessment development the Level of Assessment Tables:

- A development application for Impact assessment development is required to be made to the Gladstone Regional Council, and approved, prior to the commencement of the use;
- The relevant codes contained within this PTP Plan of Development apply to the development; and
- The relevant provisions of the Planning Scheme, where not in conflict with this PTP Plan of Development, apply to the development.

2.3 Material Change of Use Level of Assessment Table – All Precincts

Use	Level of Assessment				Assessment Criteria
	Residential Precinct	Tourist Precinct	Community and Island Services Precinct	Open Space and Recreation Precinct	
Air Services	Impact assessment	Impact assessment	Code assessment	Code assessment	Hummock Hill Island Code The following Gladstone Regional Council Planning Scheme Codes: • Development Design Code • Landscaping Code
Bar	Impact assessment	**Self-assessment** – if complying with the relevant self-assessable acceptable outcomes and involving the reuse of an existing building; or **Code assessment** - if not involving the reuse of an existing building	Impact assessment	Impact assessment	Hummock Hill Island Code The following Gladstone Regional Council Planning Scheme Codes: • Development Design Code • Landscaping Code
Caretakers Accommodation	Self-assessment	Self-assessment	Code assessment	Code assessment	Hummock Hill Island Code The following Gladstone Regional Council Planning Scheme Codes: • Development Design Code
Child Care Centre	Code assessment	Code assessment	Impact assessment	Impact assessment	Hummock Hill Island Code The following Gladstone Regional Council Planning Scheme Codes: • Development Design Code • Landscaping Code
Club	Impact Assessment	Code assessment	Impact Assessment	Code assessment	Hummock Hill Island Code The following Gladstone Regional Council Planning Scheme Codes: • Development Design Code • Landscaping Code

Use	Level of Assessment				Assessment Criteria
	Residential Precinct	Tourist Precinct	Community and Island Services Precinct	Open Space and Recreation Precinct	
Community Use	Impact assessment	Code assessment	Impact assessment	Code assessment	Hummock Hill Island Code The following Gladstone Regional Council Planning Scheme Codes: • Development Design Code • Landscaping Code
Dual Occupancy	Code assessment	Code assessment	Impact assessment	Impact assessment	Hummock Hill Island Code; The following Gladstone Regional Council Planning Scheme Codes: • Development Design Code • Landscaping Code
Dwelling House	**Self-assessment**; or **Code assessment** – where located in the Residential High Density Sub-precinct or if the acceptable solutions of the Hummock Hill Island Code are not complied with	Code assessment	Impact assessment	Impact assessment	Hummock Hill Island Code
Emergency Services	Code assessment	Code assessment	**Exempt** – where undertaken by a public sector entity and the development footprint is less than 500m^2 **Code assessment** – where undertaken by a public sector entity and the development footprint is 500m^2 or greater or if not undertaken by a public sector entity	Impact assessment	Hummock Hill Island Code The following Gladstone Regional Council Planning Scheme Codes: • Development Design Code

Use	Level of Assessment				Assessment Criteria
	Residential Precinct	Tourist Precinct	Community and Island Services Precinct	Open Space and Recreation Precinct	
Environment Facility	Impact assessment	Code assessment	Code assessment	Code assessment	Hummock Hill Island Code The following Gladstone Regional Council Planning Scheme Codes: • Development Design Code • Landscaping Code
Food and Drink Outlet	Impact assessment	**Self-assessment** – if complying with the relevant self-assessable acceptable outcomes and involving the reuse of an existing building; or **Code assessment** – if not involving the reuse of an existing building	Code assessment	Code assessment	Hummock Hill Island Code The following Gladstone Regional Council Planning Scheme Codes: • Development Design Code • Landscaping Code
Function Facility	Impact assessment	Code assessment	Impact assessment	**Code assessment** – where associated with Outdoor Sport and Recreation **Impact assessment** – all other circumstances	Hummock Hill Island Code The following Gladstone Regional Council Planning Scheme Codes: • Development Design Code • Landscaping Code
Garden Centre	Impact assessment	Code assessment	Impact assessment	Impact assessment	Hummock Hill Island Code The following Gladstone Regional Council Planning Scheme Codes: • Development Design Code • Landscaping Code
Health Care Services	Impact assessment	**Exempt** – if involving the reuse of an existing building; or **Code assessment** – if not involving the reuse of an existing building	Impact assessment	Impact assessment	Hummock Hill Island Code The following Gladstone Regional Council Planning Scheme Codes: • Development Design Code • Landscaping Code

Use	Level of Assessment				Assessment Criteria
	Residential Precinct	Tourist Precinct	Community and Island Services Precinct	Open Space and Recreation Precinct	
Home Based Business	**Self- assessment** – if complying with the relevant self-assessment acceptable outcomes	Impact assessment	Impact assessment	Impact assessment	Hummock Hill Island Code The following Gladstone Regional Council Planning Scheme Codes: • Home Based Business Code
Hotel	Impact assessment	Code assessment	Impact assessment	Impact assessment	Hummock Hill Island Code The following Gladstone Regional Council Planning Scheme Codes: • Development Design Code • Landscaping Code
Indoor Sport and Recreation	Impact assessment	Code assessment	Impact assessment	Impact assessment	Hummock Hill Island Code The following Gladstone Regional Council Planning Scheme Codes: • Development Design Code • Landscaping Code
Landing	Impact assessment	Impact assessment	Exempt	Impact assessment	For Impact assessment PTP Plan of Development Gladstone Regional Council Planning Scheme
Major Electricity Infrastructure	Impact assessment	Impact assessment	Exempt	Impact assessment	For Impact assessment PTP Plan of Development Gladstone Regional Council Planning Scheme
Market	Impact assessment	Code assessment	Impact assessment	Code assessment	Hummock Hill Island Code The following Gladstone Regional Council Planning Scheme Codes: • Development Design Code • Landscaping Code

Use	Level of Assessment				Assessment Criteria
	Residential Precinct	Tourist Precinct	Community and Island Services Precinct	Open Space and Recreation Precinct	
Multiple Dwelling	Code assessment	Code assessment	Impact assessment	Impact assessment	Hummock Hill Island Code The following Gladstone Regional Council Planning Scheme Codes: • Development Design Code • Landscaping Code
Nature Based Tourism	Impact assessment	Code assessment	Impact assessment	Code assessment	Hummock Hill Island Code The following Gladstone Regional Council Planning Scheme Codes: • Development Design Code • Landscaping Code
Office	Impact assessment	**Exempt** – if involving the reuse of an existing building; or **Code assessment** – if not involving the reuse of an existing building	Impact assessment	Impact assessment	Hummock Hill Island Code The following Gladstone Regional Council Planning Scheme Codes: • Development Design Code • Landscaping Code
Outdoor Sport and Recreation	Impact assessment	Code assessment	Impact assessment	Code assessment	Hummock Hill Island Code The following Gladstone Regional Council Planning Scheme Codes: • Development Design Code • Landscaping Code
Park	Exempt	Exempt	Exempt	Exempt	Not applicable
Parking Station	Impact assessment	Code assessment	Impact assessment	Impact assessment	Hummock Hill Island Code The following Gladstone Regional Council Planning Scheme Codes: • Development Design Code • Landscaping Code

Use	Level of Assessment				Assessment Criteria
	Residential Precinct	Tourist Precinct	Community and Island Services Precinct	Open Space and Recreation Precinct	
Renewable Energy Facility	Impact assessment	Impact assessment	Code assessment	Impact assessment	Hummock Hill Island Code The following Gladstone Regional Council Planning Scheme Codes: • Development Design Code • Landscaping Code
Resort Complex	Impact assessment	Code assessment	Impact assessment	Impact assessment	Hummock Hill Island Code The following Gladstone Regional Council Planning Scheme Codes: • Development Design Code • Landscaping Code
Retirement Facility	Code assessment	Impact assessment	Impact assessment	Impact assessment	Hummock Hill Island Code The following Gladstone Regional Council Planning Scheme Codes: • Development Design Code • Landscaping Code
Rooming Accommodation	Impact assessment	Code assessment	Impact assessment	Impact assessment	Hummock Hill Island Code The following Gladstone Regional Council Planning Scheme Codes: • Development Design Code • Landscaping Code
Sales Office	**Self-assessment** – if complying with the relevant self-assessable acceptable outcomes	**Self-assessment** – if complying with the relevant self-assessable acceptable outcomes	Impact assessment	Impact assessment	Hummock Hill Island Code The following Gladstone Regional Council Planning Scheme Codes: • Development Design Code • Landscaping Code

Use	Level of Assessment				Assessment Criteria
	Residential Precinct	Tourist Precinct	Community and Island Services Precinct	Open Space and Recreation Precinct	
Shop	Impact assessment	**Exempt** – if involving the reuse of an existing building; or **Code assessment** – if not involving the reuse of an existing building	Impact assessment	Impact assessment	Hummock Hill Island Code The following Gladstone Regional Council Planning Scheme Codes: • Development Design Code • Landscaping Code
Short Term Accommodation	Impact assessment	Code assessment	Impact assessment	Impact assessment	Hummock Hill Island Code The following Gladstone Regional Council Planning Scheme Codes: • Development Design Code • Landscaping Code
Substation	Exempt – if undertaken by an electrical entity	Exempt – if undertaken by an electrical entity	Exempt	Impact assessment	For Impact assessment PTP Plan of Development Gladstone Regional Council Planning Scheme
Tourist Park	Impact assessment	Code assessment	Impact assessment	Impact assessment	Hummock Hill Island Code The following Gladstone Regional Council Planning Scheme Codes: • Development Design Code • Landscaping Code
Utility Installation	**Exempt** – where undertaken by a public sector entity and the development footprint is less than 500m^2 **Code assessment** – where undertaken by a public sector entity and the development footprint is 500m^2 or greater or if not undertaken by a public sector entity		Exempt	Impact assessment	For Code Assessment Gladstone Regional Council Planning Scheme Development Design Code For Impact assessment PTP Plan of Development Gladstone Regional Council Planning Scheme

Use	Level of Assessment				Assessment Criteria
	Residential Precinct	Tourist Precinct	Community and Island Services Precinct	Open Space and Recreation Precinct	
Service Station	Impact assessment	Code assessment	Code assessment	Impact assessment	Hummock Hill Island Code The following Gladstone Regional Council Planning Scheme Codes: • Development Design Code • Landscaping Code
Telecommunications Facility	Impact assessment	**Self-assessment** – if complying with the relevant self-assessment acceptable outcomes	**Self-assessment** – if complying with the relevant self-assessment acceptable outcomes	Impact assessment	Hummock Hill Island Code The following Gladstone Regional Council Planning Scheme Codes • Telecommunications Facilities Code
Tourist Attraction	Impact assessment	Code assessment	Impact assessment	Impact assessment	Hummock Hill Island Code The following Gladstone Regional Council Planning Scheme Codes: • Development Design Code • Landscaping Code
Transport Depot	Impact assessment	Impact assessment	Code assessment	Impact assessment	Hummock Hill Island Code The following Gladstone Regional Council Planning Scheme Codes: • Development Design Code • Landscaping Code
Any other use not defined	Impact assessment	Impact assessment	Impact assessment	Impact assessment	PTP Plan of Development Gladstone Regional Council Planning Scheme

2.4 Development other than Material Change of Use – Level of Assessment Table

Type of Development	Level of Assessment	Assessment Criteria
Operational Work – involving earthworks including filling or excavating land – where not associated with a Material Change of Use or reconfiguring a lot	**Self-assessment** – involving earthworks of less than 100m^3 **OR** **Code assessment** – involving earthworks of 100m^3 or more.	• Hummock Hill Island Code • Gladstone Regional Council Planning Scheme Codes: – Operational Works Code – Development Design Code
Operational Work – involving earthworks including filling or excavating land – where associated with a Material Change of Use or reconfiguring a lot	**Exempt** – involving earthworks of less than 100m^3 **OR** **Code assessment** – involving earthworks of 100m^3 or more.	• Hummock Hill Island Code • Gladstone Regional Council Planning Scheme Codes: – Operational Works Code – Development Design Code
Reconfiguring a Lot	**Code assessment**	• Hummock Hill Island Reconfiguring a Lot Code • Gladstone Regional Council Planning Scheme Codes: – Operational Works Code – Development Design Code

3. Applicable Development Codes

3.1 Introduction

For the purposes of assessing development applications within the PTP Development Area, the codes identified in this section of the PTP Plan of Development are the applicable codes.

Where development is identified as Code or Impact assessment in the Level of Assessment Tables of this PTP Plan of Development, the development must comply with the Overall Outcomes and performance outcomes of an applicable code.

Where the development is identified as Self-assessment in the in the Level of Assessment Tables of the PTP Plan of Development, the development must comply with the acceptable outcomes of an applicable code.

For Self-assessment and assessable development within the PTP Development Area, the Hummock Hill Island Code take precedence over the Planning Scheme where there is any inconsistency.

The applicable codes include:

- Hummock Hill Island Code; and
- Hummock Hill Island Reconfiguring a Lot Code.

The following Planning Scheme Codes are also applicable where specified in the Level of Assessment Table in **Section 2** of this PTP Plan of Development.

- Home Based Business Code
- Telecommunications Facility Use Code
- Landscaping Code
- Operational Works Code
- Development Design Code

3.2 Hummock Hill Island Code

3.2.1 Provisions of the Hummock Hill Island Code

The following provisions comprise the Hummock Hill Island Code:

- Compliance with the Hummock Hill Island Code;
- Overall outcomes for the Hummock Hill Island Code; and
- Performance outcomes and acceptable outcomes for the Hummock Hill Island Code.

3.2.2 Compliance with the Hummock Hill Island Code

Development that is consistent with the acceptable outcomes for the Hummock Hill Island Code complies with the Hummock Hill Island Code.

3.2.3 Overall Outcomes for the Hummock Hill Island Code

All Precincts

The overall outcomes for the Pacificus Tourism Project on Hummock Hill Island are:

- The PTP Development Area will accommodate a maximum population of 4000 persons;
- At least 70% of all accommodation units on the island will be for short-term tourism accommodation;
- The location, extent and mix of development, including open space, is generally in accordance with PTP Plan of Development Precinct Plan;
- The PTP Development Area has a high level of amenity making it an attractive place to live, work and visit;
- Development is undertaken having regard to environmentally sensitive areas;
- Natural coastal processes continue to occur with minimal interference from development; and
- Buildings and structures in the PTP Development Area utilise materials and forms appropriate to the surrounding natural setting.

Development undertaken within the PTP Development Area is required to comply with the above overall outcomes and the overall outcomes of the relevant zone, which are listed below, and give consideration to the Urban Design and Environmental Guidelines contained within Section 5 of this PTP Plan of Development.

Residential Precinct

Purpose

- The purpose of the Residential Precinct is to provide for residential activities that primarily cater for local residents; and
- Residential precinct provides for a maximum of 770 dwelling units that provide a range of housing options to meet the individual needs of different household types.

Outcomes

- The Residential Precinct will include a combination of densities and styles to provide a range of accommodation including low cost housing for workers on the island.
- Higher densities are located around transport corridors and centres.
- Development provides for a high standard of amenity reflective of the surrounding character of the area, an appropriate level of privacy and well-designed private and public open space.
- Residential development is to be compatible with the landform and vegetation of individual sites.
- To achieve maximum protection of vegetation:
  - a building envelope will be identified to provide sufficient area for building and access purposes;
  - the building envelopes will to the extent possible exclude identified significant vegetation;
  - necessary clearing on lots will be undertaken prior to sale to remove the need for individual owners / builders to undertake any clearing; and
  - subsequent clearing outside of building envelopes will not be allowed unless where identified for bushfire management or emergency services vehicles access.
- The natural shape of the landscape will be maintained by minimising cut and fill.

- All structures, including the dwelling house, recreational structures, pools and water tanks are to be located within the cleared, nominated building area for that site.
- Development is accompanied by sufficient parking to accommodate the needs of residents and visitors.
- Development is designed to incorporate sustainable practices including maximising energy efficiency, water conservation and transport use.
- Houses will use water tanks and recycled water for gardens and other outside usages;
- Natural water cycles will be maintained.
- Development is responsive to the environmental constraints of the land.
- Development has access to infrastructure and services.
- Natural features and environmental corridors such as creeks, gullies, waterways, wetlands, habitats and vegetation are retained and enhanced through buffers that minimise the impact of existing and future land uses.

Tourist Precinct

Purpose

The purpose of the precinct is to provide for short-term accommodation in locations where there is a strong focus on tourist attractions supported by community uses and facilities including retail, commercial, offices, administrative and health services, small scale entertainment, and recreational facilities.

The precinct will provide for a range of tourist accommodation types and styles (refer Table 1) to maximise ability of the proposed development to meet the range of demands in the region. Development within the Tourist Precinct includes:

- A resort hotel providing a focal point for much of the development. A key focus of the development will be an interface with other uses including retail, entertainment and recreational facilities.
- Beachfront tourist hotel, adjacent to both the beach and the golf course.
- Apartment spa retreat on the ridge of Hummock Hill.
- Resort Village, providing for low level retail and commercial development, restaurants, cafes, community and professional services, and lifesaving club.
- Colosseum Village providing for the convenience retail needs of the local population and also provide tourist services including tourist information facilities and a native plant nursery.
- Motel for short stay visitors.
- Tourist Park for caravans and camping catering for short-term stays.
- Associated retail and commercial space to provide for the personal and retail needs of visitors and residents.

Outcomes

- Development within the Tourist Precinct minimises impacts on the natural environment and scenic values of the coastal landscape and enhances and protects the specific features and values which are a tourist attraction.
- Quality of the built environment is achieved through a high standard of building design and material selection, compatible signage, extensive landscaping of endemic species, and a streetscape not dominated by car parking.

- Development is reflective and responsive to the environmental constraints of the land and maintains a high level of accommodation amenity having regard to traffic, noise, dust, odour, lighting and other locally specific impact.
- Natural features which form the basis of the tourist attraction such as creeks, gullies, waterways, wetlands, habitats and vegetation and bushland are retained, enhanced and buffered from the impacts of adjacent uses and any unavoidable impacts are minimised through location, design, operation and management requirements.
- Development is designed to incorporate sustainable practices including maximising energy efficiency, water conservation and transport use.
- Mixed use development, comprising retail and residential development will have active street frontages as the focus of commercial activity.
- Development is generally located close to centres, community facilities and open space and maximises public transport accessibility, walking and cycling.
- Development is supported by the necessary infrastructure and social services to meet the needs of short-term visitors.

Community and Island Services Precinct

Purpose

The purpose of the precinct is for the provision of community infrastructure to support the tourist and residents of the PTP. The development within this precinct will include:

- Desalination plant and evaporation ponds for potable water supply;
- Sewage treatment plant;
- Recycled water treatment plant;
- Electricity sub-station, solar arrays and gas fired generator for standby power supply;
- Maintenance yard and offices;
- Petrol station;
- LPG tanks;
- Airstrip; and
- Landing.

Outcomes

- Services will be provided to meet the needs of the project's tourist and residential population.
- The built form of services buildings will be consistent in scale, height and bulk with surrounding development.
- Landscaped to screen the uses from the surrounding development.

Open Space and Recreation Precinct

Purpose

The purpose of the precinct is to provide for a range of environmental focused activities, sporting, recreation, leisure and cultural activities. The Open Space and Recreation Precinct includes the open space areas, parks, sporting facilities, golf course, passive and nature based recreation areas, and infrastructure to support the activities, provide safe access and provide essential management.

Outcomes

- Facilities such as kiosks and small-scale catering premises which complement the use and enjoyment of open spaces may be suitable in some locations.
- Recreational or club facilities do not affect the amenity of adjacent areas, particularly residential areas, via the sensitive design and siting of facilities and through buffering of facilities from sensitive land uses.
- Recreational activities do not adversely affect surrounding areas or the traffic environment.

3.2.4 Hummock Hill Island Code: Performance Outcomes and Acceptable Outcomes

Performance Outcomes	Acceptable Outcomes
All Precincts	
PO1 Amenity - Uses are located, designed and operated to avoid significantly changing the light, noise, dust, odours and traffic conditions or other physical conditions experienced by occupants of surrounding uses; and - Uses are located so as to maximise the compatibility between residential and non-residential uses	**AO1** Where a commercial use is located adjoining a site containing a non-commercial use noise levels must be maintained below background noise levels plus 5dbA measured at the property boundary.
PO2 Density - The Residential Precinct will provide a range of housing types in a maximum of 770 dwelling units. - The Tourist Precinct will provide short-term accommodation only, with a maximum of 2,695 dwelling units.	No acceptable outcome is nominated
PO3 Lighting Premises within 300m of a designated turtle rookery are of a scale and design that protects the value of the rookery to turtle breeding. In particular: - maintain a vegetated area adjacent to the identified turtle nesting area free of any development; and - ensure lighting does not spill into identified turtle nesting areas; and - maintain a buffer of a minimum of 150m adjacent to high density turtle nesting areas; and - manage public access to identified turtle nesting areas; and - lighting, including street lighting, is no higher than the buffering vegetation and is turned away from the nesting areas or lighting with characteristic wavelengths that do not affect turtles is installed.	No acceptable outcome is nominated

PO4 Building Appearance
- Buildings achieve a high quality of finish in design and the use of materials to create a contemporary architectural character; and
- The appearance of building bulk must be reduced by design elements; and
- Building elevations must visually balance the height of the building.
	AO4
	Buildings must:
	- have roofs constructed of non-reflective material, with roof tiles not permitted, and having a minimum pitch of 15°; and
	- incorporate the following design elements:
	  - variations in the treatment and patterning of windows sun protection devices or other elements of the facade; and
	  - variation in materials colours, and/or textures between levels; and

Performance Outcomes	Acceptable Outcomes
	- balconies, verandahs, terraces or sun shading devices; and - roofs that includes pitches and/or gables; and - light coloured materials; and - on-site undercover car parking for mixed use development and dwelling houses is designed and located to be compatible with the overall building design in terms of height, roof form, detail, material and colours. - all structures (with the exception of permitted boundary fencing) must be located within any nominated building envelope.

PO5 Earthworks
The natural contours of the site are retained so as to preserve the natural landscape character of the locality
	AO5
	- All earthworks must be contained within any nominated building envelope; and
	- Earthworks must:
	  - avoid any cut and fill having a depth or height of more than 1.0m; and
	  - does not involve importation of fill material; and
	  - slab on ground construction is avoided unless the site has an average slope of no more than 10%.

PO6 Vegetation Clearing The physical characteristics sites are to be enhanced through vegetation retention	No acceptable outcome is nominated
All Precincts: Use – Sales Office	
PO7 The use does not adversely impact on the amenity of the surrounding land uses and local character	**AO7.1** Development of the sales office is in place for no more than 2 years **AO7.2** The site coverage of the building is a maximum of 50% of the site area **AO7.3** The use operates between 8am and 6pm Monday to Sunday
All Precincts: Use – Caretakers Accommodation	
PO8 Development is: - Ancillary to the primary use; - Does not compromise the character of the locality; and - Does not compromise ground level business activities being established.	**AO8.1** No more than 1 caretakers accommodation unit is established on the site **AO8.2** Development is a maximum of 100m^2 GFA **AO8.3** In a mixed used development, Caretakers accommodation is located above the ground floor level, or to the rear of ground level business activities **A08.4** Caretaker's accommodation is provided with a private open space area which: - is directly accessible from a habitable room, and - where a balcony, a verandah or a deck, has a minimum area of 15m^2 with minimum horizontal dimension of 1.25m.

Performance Outcomes	Acceptable Outcomes
All Precincts: Use – Child Care Centre	
PO9 Development is low impact, limited in scale and: - compatible with neighbouring residential uses and complementary to local character - incorporates design elements that are consistent with the surrounding residential development - supports the day to day needs of residents - located on a site which must adequately accommodate activity needs and space requirements, and - does not undermine the viability of nearby centres.	No acceptable outcome is nominated
PO10 Development is highly accessible and is co–located with, or located close to, centres or other community or recreation uses.	No acceptable outcome is nominated
PO11 Development does not adversely impact on the amenity of area.	**AO11** Hours of operation for non–residential development is limited to between 6am and 7pm daily.
PO12 Buildings are located on the site to maximise the residential amenity of residents and neighbours.	**AO12** Buildings are setback a minimum of: - 6m from the front and rear boundary, and - 3m from the side boundary.
PO13 Development must ensure residential amenity is maintained on adjoining properties.	**AO13** Development provides a 1.8m acoustic screen fence where adjoining a residential use.
PO14 Where a child care centre, development minimises: - the hazards of heavy traffic - introduction of non–local traffic into minor, residential streets, and - on–site conflict between pedestrian movement, vehicle movement and car parking.	**AO14.1** The site is not located on arterial/sub–arterial routes, or an access street or access place. **AO14.2** Parking spaces are located so that children are not required to cross the driveway or vehicular access way to reach the building.
Residential Precinct	
PO15 Built Form Development: - is of a form and colour appropriate to the natural setting of Hummock Hill Island; and - is limited in height to prevent visual dominance of the landscape setting; and - is proportionate to the size and street frontage of the site; and - maintains and enhances the existing streetscape; and - must achieve a pleasant, attractive and manageable living environment; and - containing residential uses are to be designed to provide cross ventilation to improve comfort and cooling: and - protects adjacent amenity; and	**AO15.1** The maximum height of buildings in the Residential Precinct must not exceed those detailed in Table 1 of this Plan of Development. **AO15.2** Maximum site coverage is: - Dwelling House – 50% - Dual Occupancy – 60% - Multiple Dwelling – 50% **AO15.3** For Dwelling Houses and Dual Occupancy: - houses are orientated within 45^0 either side of north; and - window placement and internal layout allows cross ventilation.

Performance Outcomes	Acceptable Outcomes
– maintains appropriate levels of light and solar penetration, air circulation, and privacy for adjoining properties.	**AO15.4** For Multiple Dwellings: – an optimal number of units are orientated to within 45^0 either side of north; and – orientation of main living area windows are located to within 45^0 either side of north; and – the majority of private open space has good access to sunlight; and – window placement and internal layout allows cross-ventilation.
PO16 Water Efficiency Development is designed to reduce water consumption through: – the use of water efficient fixtures; and – provision of rainwater tanks; and – provision of dual water reticulation.	**AO16.1** – Provision of a rainwater tank that collects rainwater from greater than 90% of the total roof area is connected to outdoor water use and internal uses (such as toilets); and – Dual water reticulation is provided for the delivery of recycled water for outdoor non-consumption purposes. **AO16.2** For dwelling houses the tank must be located within 1.5m of the dwelling house and enclosed on a minimum of 2 sides with the enclosing walls constructed of materials compatible with the dwelling house.
PO17 Design and Streetscape – Development has a high quality appearance and makes a positive contribution to the streetscape. – Buildings must be orientated to facilitate casual surveillance of the street and any adjoining public space	**AO17.1** A landscape area with a minimum dimension of 1.5m is provided along any road frontage. **AO17.2** For any Multiple Dwelling, balconies or verandahs occupy a minimum of 50% of the building facade fronting the street. **AO17.3** Building Setbacks – Dual Occupancy and Multiple Dwellings where each unit has access to ground level private open space (e.g. townhouse style): – Front: 3m (OMP and including all street frontages where a corner lot.), 5m to garage – Rear: 6m (where not on a corner lot). – Side: 1.5m not including eaves Building Setbacks – Other Multiple Dwelling: – Front: 4m to main face of building (2m to OMP) – Rear: 9m to OMP (where not on a corner lot). – Side: 3m not including eaves (9m where balconies overlook side boundary) **AO17.4** Built to boundary walls are limited to 1 side boundary and must contain no windows, openings or glazing. Maximum length 10m and maximum height 3.5m.
PO18 Open Space Development must provide sufficient and accessible open space for residents needs Open space is oriented to maximise solar access.	**AO18** For Dual Occupancy: – Minimum Private Open space - $50m^2$ with a minimum dimension of 5.0m in any direction.

Performance Outcomes	Acceptable Outcomes
	For Multiple Dwellings where each unit has access to ground level private open space (e.g. townhouse style): - 30m² private open space per dwelling with a minimum dimension of 5.0m in any direction. - Development greater than 18 dwelling provides a minimum communal open space area of 50m² with a minimum dimension of 10m. For all other Multiple Dwellings: - Minimum private open space of 16m² per dwelling with a minimum dimension of 3m in any direction. - Ground level courtyards can be raised a maximum of 900m above footpath level. - Minimum communal open space of 20% of the site area which is open to the sky and with a minimum dimension of 5m in any direction.
PO19 Communal Open Space Communal open space is: - designed to provide useable areas for communal activities such as clothes drying and social interaction, and - is not dominated by landscaping.	No acceptable outcome is nominated
PO20 Landscaping Landscaping is provided to enhance the appearance of the development, screen unsightly components, create an attractive on–site environment and provide shading.	No acceptable outcome is nominated

PO21 Privacy and Screening
- Buildings are sited to maximise visual privacy for occupants and minimise loss of visual privacy for adjoining users; and
- Buildings are sited to maximise acoustic privacy for occupants and minimise loss of acoustic for adjoining users.
	AO21
	Habitable room windows of a dwelling unit are separated a minimum of 9m from a habitable room window or private open space of another dwelling unit unless:
	- windows have translucent glazing or sill heights of at least 1.5m, or
	- there is a 1.8m high dividing fence at ground level
	- outlook from windows, balconies, and terraces of a dwelling unit is screened where screening is:
	  - a permanent screen or perforated panels or trellises which have a maximum of 50% openings, and
	  - permanent and fixed, and designed to complement the development.

PO22 Fencing Fencing for lots must: - enable the use of the private open space on the site; and - assist in highlight entrances to the property; and - minimise the removal of site vegetation.	**AO22** Fencing: - does not exceed 1.8m in height; and - is located only along the side and rear boundaries of lots; and - does not involve the removal of significant site vegetation.
PO23 Car Parking Development: - includes the provision of adequate and convenient car and bicycle parking on–site to satisfy the anticipated requirements of the activity. - parking and loading areas are design so they do not	**AO23.1** Car parking is provided on site in accordance with the rates specified in the *Parking Rates Planning Scheme Policy*.

Performance Outcomes	Acceptable Outcomes
visually dominate the streetscape.	**AO23.2** Garages for any Dwelling House or Dual Occupancy: - do not protrude in front of the main building face, and - occupy a maximum of 50% of the site frontage. **AO23.3** Vehicle access is provided through a: - single driveway for any Dwelling House or Multiple Dwelling - 1 paired driveway for Dual Occupancy, or - or rear lane access.

PO24 Storage Areas
Plant equipment, waste, storage and servicing areas are screened from adjoining properties and from the street.
	AO24.1
	A minimum of $8m^2$ per dwelling unit is provided exclusively for storage
	AO24.2
	Clothes drying facilities are provided either communally or individually for each dwelling unit.
	AO24.3
	Plant equipment, waste, storage and servicing areas are:
	- not located adjacent to any road frontage, and
	- screened from public view by either:
	  - a 1.8m high solid wall or fence, constructed in materials and colours compatible with the main building on site, or
	  - mature landscaping that has the same effect as a 1.8m high wall.

Tourist Precinct	
PO25 Mix of Uses Development provides a diverse mix of building types and tenancy sizes to support a range of business and community uses and enterprise opportunities.	No acceptable outcome is nominated
PO26 Built Form Development: - is of a form and colour appropriate to the natural setting of Hummock Hill Island; and - is limited in height to prevent visual dominance of the landscape setting; and - is proportionate to the size and street frontage of the site; and - maintains and enhances the existing streetscape; and - must achieve a pleasant, attractive and manageable living environment; and - containing residential uses are to be designed to provide cross ventilation to improve comfort and cooling; and - protects adjacent amenity; and - maintains appropriate levels of light and solar penetration, air circulation, and privacy for adjoining properties.	**AO26.1** The maximum height of buildings in the Tourist Precinct must not exceed those detailed in Table 1 of this Plan of Development. **AO26.2** Gross floor area does not exceed that detailed in Table 1 of this Plan of Development. **AO26.3** Maximum site coverage is: - Dwelling House – 50% - Dual Occupancy – 60% - Multiple Dwelling – 50% **AO26.4** For mixed use development: - buildings may be erected up to side and rear boundaries; and - the length of wall in one plane is not greater than 15m; and - buildings incorporate active frontage to the street in

Performance Outcomes	Acceptable Outcomes
	the form of open shop fronts, retail, restaurant and entertainment uses at street level; and - buildings with street frontage incorporate a continuous awning or pedestrian shelter for the full frontage of the site to the street.
-	**AO26.5** For Dwelling Houses and Dual Occupancy: - houses are orientated within 45^0 either side of north; and - window placement and internal layout allows cross ventilation; and **AO26.6** For Multiple Dwellings: - an optimal number of units are orientated to within 45^0 either side of north; and - orientation of main living area windows are located to within 45^0 either side of north; and - the majority of private open space has good access to sunlight; and - window placement and internal layout allows cross-ventilation.
PO27 Water Efficiency Development is designed to reduce water consumption through: - the use of water efficient fixtures; and - provision of rainwater tanks; and - provision of dual water reticulation.	**AO27.1** - Provision of a rainwater tank that collects rainwater from greater than 90% of the total roof area is connected to outdoor water use and internal uses (such as toilets); and - Dual water reticulation is provided for the delivery of recycled water for outdoor non-consumption purposes. **AO27.2** For dwelling houses the tank must be located within 1.5m of the dwelling house and enclosed on a minimum of 2 sides with the enclosing walls constructed of materials compatible with the dwelling house.
PO28 Street Interface Development is oriented to address all street frontages, public open space and public areas to: - promote interaction and casual surveillance - concentrate and reinforce pedestrian activity - avoid opaque facades to provide visual interest to the frontage, and - clearly define the public and private realm.	No acceptable outcome is nominated
PO29 Building and Pedestrian Entries Buildings and Pedestrian entries: - are visible from the street and car parking areas - incorporate sun and rain shelter such as overhangs, and - are defined by design elements (such as doors and landscaping, etc).	No acceptable outcome is nominated

Performance Outcomes	Acceptable Outcomes
PO30 Design Flexibility Ground floor spaces are designed to enable the flexible reuse of non–residential floor area to support changing community and business needs.	No acceptable outcome is nominated
PO31 Windows and Openings Buildings include windows and openings to: - promote street life and business activities - encourage strong indoor/outdoor relationships at ground level, and - to facilitate casual surveillance.	No acceptable outcome is nominated
PO32 Privacy and Screening Where non-residential uses are proposed on land with a shared boundary with the Residential Precinct - Buildings are sited to maximise visual privacy for occupants and minimise loss of visual privacy for adjoining users; and - Buildings are sited to maximise acoustic privacy for occupants and minimise loss of acoustic for adjoining users.	**AO32.1** Non-residential buildings are set back 3m from any boundary shared with the Residential Precinct. **AO32.2** A 1.8m high solid screen fence is provided along all boundaries where a non-residential use shared with the Residential Precinct. **AO32.3** For non-residential land uses a landscaped buffer with a minimum width of 2m and consisting of dense screen planting is provided along all boundaries shared with the Residential Precinct. **AO32.4** For non-residential land uses, windows that have a direct view into an adjoining residential use are provided with fixed screening that is a maximum of 50% transparent to obscure views and maintain privacy for residents.
PO33 Landscape Design Landscape elements are integrated in the building design through planting at various levels including on top of podiums, rooftops and within storeys.	No acceptable outcome is nominated
PO34 Fencing Fencing for lots must: - enable the use of the private open space on the site; and - assist in highlight entrances to the property; and - not require the removal of site vegetation	**AO34** Fencing does not exceed 1.8m in height.
PO35 Car Parking and Access Development: - includes the provision of adequate and convenient car and bicycle parking on–site to satisfy the anticipated requirements of the activity. - parking and loading areas are design so they do not visually dominate the streetscape.	**AO35.1** Car parking is provided on site in accordance with the rates specified in the *Parking Rates Planning Scheme Policy*. **AO35.2** In mixed used development parking areas are: - located in a basement or semi basement, or - located only at the side and/or rear of the building. **AO35.2** Vehicle loading areas are screened from footpaths, streets and public areas by fences with screening at least 1.5m in height and are 50% visually permeable.

Performance Outcomes	Acceptable Outcomes
	AO35.3 Development is limited to one crossover. **AO35.3** Vehicular access is not located on a primary frontage unless where there is no other access available to the site.
PO36 Storage Areas Ancillary storage of goods or materials and waste management areas must be located in a manner that does not detract from the visual amenity of the local area.	**AO36** Equipment, materials, goods and/or, machinery used on site are either: - stored behind the front building setback and screened from view, or - stored within a building
PO37 Advertising Signage Advertising signage is to be compatible with the surrounding environment	**AO37** Signage must have a direct nexus to the land use; and
Uses: Dual Occupancy, Multiple Dwelling, Retirement Facility, Residential Care Facility and Rooming Accommodation	
PO38 Development does not compromise ground level business activities being established.	**AO38** Dwelling units are located either above the ground floor level, or to the rear of ground level business activities.
PO39 Open Space Development must provide sufficient and accessible open space for residents needs	**AO39.1** For Dual Occupancy: - Minimum Private Open space - 50m^2 with a minimum dimension of 5.0m in any direction. **AO39.2** For uses where each dwelling unit has access to ground level private open space (e.g. townhouse style): - 30m^2 private open space per dwelling with a minimum dimension of 5.0m in any direction. - Development greater than 18 dwelling provides a minimum communal open space area of 50m^2 with a minimum dimension of 10m. **AO39.3** For all other uses: - Minimum private open space of 16m^2 per dwelling unit with a minimum dimension of 3m in any direction. - Ground level courtyards can be raised a maximum of 900m above footpath level. - Minimum communal open space of 20% of the site area which is open to the sky and with a minimum dimension of 5m in any direction. **AO39.4** Development greater than 18 dwellings provides a minimum communal open space area of 50m^2 with a minimum dimension of 5m.
PO40 Solar Orientation of Open Space Open space is oriented to maximise solar access.	No acceptable outcome is nominated
PO41 Communal Open Space Communal open space is: - designed to provide useable areas for communal	No acceptable outcome is nominated

Performance Outcomes	Acceptable Outcomes
activities such as clothes drying and social interaction, and - open to the sky; and - is not dominated by landscaping.	
PO42 Privacy and Screening Habitable spaces must not directly overlook dwellings on adjacent land.	**AO42** Habitable room windows of a dwelling unit are separated a minimum of 9m from a habitable room window or private open space of another dwelling unit unless: - windows have translucent glazing or sill heights of at least 1.5m, or - there is a 1.8m high dividing fence at ground level - outlook from windows, balconies, and terraces of a dwelling unit is screened where screening is: - a permanent screen or perforated panels or trellises which have a maximum of 50% openings, and - permanent and fixed, and designed to complement the development.
Uses: Bar, Club, Food and Drink Outlet	
PO43 Hours of operation are limited to minimise nuisance to any surrounding residential uses	**AO43** Where adjoining, or part of a building with residential uses: - hours of operation are limited to between 7am and 10pm, and - the use does not involve amplified music audible external to the premises.
Community and Island Services Precinct	
PO44 Amenity Development minimises impacts on surrounding land and uses, having regard to: - noise - hours of operation - visual impact - signage - odour and emissions - access to sunlight, and - privacy.	No acceptable outcome is nominated
PO45 Building Siting Scale, siting and provision of buildings and structures: - buildings and structures are of a scale consistent with existing buildings and other works on adjoining premises and in the vicinity; and - buildings and structures are appropriately sited with respect to boundary setbacks.	**AO45** The minimum setback from road frontages and other boundaries for buildings and other use areas is 10m.
PO46 Protection of Natural Values The site layout and design responds sensitively to on–site and surrounding topography, coastal foreshore areas, waterways, drainage patterns, and ecological values, such that: - any hazards to people or property are avoided - any earthworks are minimised	No acceptable outcome is nominated

Performance Outcomes	Acceptable Outcomes
- the retention of natural drainage lines is maximised - the retention of existing vegetation is maximised; and - there is adequate buffering, screening or separation to adjoining development.	
PO 47 Outdoor Lighting Outdoor lighting does not adversely affect the amenity of adjoining properties or create a traffic hazard on adjacent roads.	**AO47.1** Light emanating from any source complies with *Australian Standard AS4282 Control of the Obtrusive Effects of Outdoor Lighting* as amended. **AO47.2** Outdoor lighting is provided in accordance with *Australian Standard AS1158.1.1 – Road Lighting – Vehicular Traffic (Category V) Lighting – Performance and Installation Design Requirements* as amended.
PO48 Building Entrances Building entrances are legible and safe.	**AO48.1** The main entry to the premises is: - easily identifiable and directly accessible from the street with a clearly defined entrance point, and - separate to vehicle access points. **AO48.2** Each building is provided with a highly visible street number. **AO48.3** Premises are provided with external lighting sufficient to provide safe ingress and egress for site users.
PO49 Storage Areas Refuse storage areas and storage of goods or materials in open areas is presented in a manner that does not have adverse environmental impacts or detract from the visual amenity of the locality.	**AO49.1** The open area used for the storage of refuse, vehicles, machinery, goods and materials used on the site is: - located no closer than 3m from any boundary, and - are screened from view by a 1.8m high solid screen. **AO49.2** Development that involves the storage of materials on site that are capable of generating air contaminants either by wind or when disturbed are managed by: - being wholly enclosed in storage bins, or - a watering program so material cannot become airborne.
PO50 Advertising Signage Advertising signage is to be compatible with the surrounding environment	**AO50** Signage must have a direct nexus to the land use.
Open Space and Recreation Precinct	
PO51 Park Size Parks provide for the active and passive recreational needs of the community and are of a sufficient size for the proposed use.	No acceptable outcome is nominated
PO52 Built Form Built form is of a height and scale that: - is low–medium rise and visually unobtrusive - protects residential amenity and minimises overshadowing and overlooking where adjoining a residential use, and	**AO52.1** The maximum height of buildings in the Open Space and Recreation Precinct must not exceed those detailed in Table 1 of this Plan of Development.

Performance Outcomes	Acceptable Outcomes
– does not restrict access to, utility or enjoyment of the open space.	**AO52.2** Gross floor area does not exceed that detailed in Table 1 of this Plan of Development. **AO52.3** The site cover of all temporary structures such as markets and does not exceed the lesser of 10% of the total site area or 400m^2.
PO53 Setbacks Development is located and designed to minimise adverse impacts on: – the amenity of open space and parkland, and – the amenity of neighbours.	**AO53** Development that shares a boundary with a residential premises or land within the Residential Precinct must ensure all buildings, car parking, servicing and outdoor storage areas: – are setback a minimum of 15m from that common boundary, and – include a minimum 1.8m high solid screen fence along that common boundary, or – a landscaped buffer area consisting of dense screen planting of a minimum 3m width along that common boundary.
PO54 Land Use Non–recreation uses occur only where they directly support the primary recreation function of the site or are a compatible community–related activity.	No acceptable outcome is nominated.
PO55 Amenity – Development does not detract from the site's visual quality values. – Development maintains a high level of amenity within the site and minimises impacts on surrounding areas, having regard to: – noise – traffic and parking – visual impact – signage – odour and emissions – access to sunlight, and – privacy.	No acceptable outcome is nominated.
PO56 Protection of Natural Values The site layout and design responds sensitively to on–site and surrounding topography, coastal foreshore areas, waterways, drainage patterns, and ecological values, such that: – any hazards to people or property are avoided – any earthworks are minimised – the retention of natural drainage lines is maximised – the retention of existing vegetation is maximised; and – there is adequate buffering, screening or separation to adjoining development.	No acceptable outcome is nominated.
PO57 Outdoor Lighting Outdoor lighting does not adversely affect the amenity of adjoining properties or create a traffic hazard on adjacent roads.	**AO57.1** Light emanating from any source complies with *Australian Standard AS4282 Control of the Obtrusive Effects of Outdoor Lighting* as amended.

Performance Outcomes	Acceptable Outcomes
	AO57.2 Outdoor lighting is provided in accordance with *Australian Standard AS1158.1.1 – Road Lighting – Vehicular Traffic (Category V) Lighting – Performance and Installation Design Requirements* as amended.

3.3 Hummock Hill Island Reconfiguring a Lot Code

3.3.1 Provisions of the Hummock Hill Island Reconfiguring a Lot Code

The following provisions comprise the Hummock Hill Island Reconfiguring a Lot Code:

- Compliance with the Hummock Hill Island Reconfiguring a Lot Code;
- Overall outcomes for the Hummock Hill Island Reconfiguring a Lot Code; and
- Specific outcomes and acceptable solutions for the Hummock Hill Island Reconfiguring a Lot Code.

3.3.2 Compliance with the Hummock Hill Island Development Code

Development that is consistent with the specific outcomes for the Hummock Hill Island Reconfiguring a Lot Code complies with the Hummock Hill Island Code.

3.3.3 Overall Outcomes

- Land configuration on Hummock Hill Island is carried out generally in accordance with the PTP Plan of Development.
- Reconfiguration does not impact on the island's natural resources such as water, native habitat area and known areas of cultural significance.

3.3.4 Hummock Hill Island Reconfiguring a Lot Code: Performance Outcomes and Acceptable Solutions

Performance Outcomes	Acceptable Outcomes
Land Configuration	
PO1 Lot sizes are appropriate for the proposed use and are compatible with the intent for the Pacificus Tourism Project.	**AO1** Lots are created generally in accordance with the PTP Plan of Development
Environmental Considerations	
PO2 Layout is designed to: – protect natural and cultural features; – address site constraints such as, steep slopes, soil erosion, flooding, overland flow, storm surges, bushfire risk etc; – retain special features such as trees and views; – provide adequate buffers to risks and hazards such as noise impacts, air quality; and – ensure that adequate buffers are provided between incompatible land uses.	No acceptable outcome is nominated.

Performance Outcomes	Acceptable Outcomes
PO3 Roads provide adequate vehicular access to the coast at locations that avoid impacts on coastal vegetation and habitat values e.g. Roads are perpendicular to the coast rather than coastal esplanades.	No acceptable outcome is nominated
PO4 Pedestrian access is provided at locations that avoid impacts on coastal vegetation and habitat values.	No acceptable outcome is nominated
Residential Precinct	
PO5 In the Residential Precinct, any reconfiguration of a lot resulting in ten or more lots, provides for a neighbourhood with a strong and positive identity, through: - clearly identifiable street and open space networks; - appropriate responses to site characteristics and settings (including landmarks and views); and - integration with the surrounding urban and natural environment.	**AO5.1** Site layout takes into consideration following minimum information: - proposed street network; - proposed access arrangements; - proposed uses of individual lots; - proposed locations of buildings each lot; - proposed open space; and - proposed landscape work theme. **AO5.2** Site layout takes into consideration characteristics and constraints of the site
Access and Road Design	
PO6 Lots have safe access for vehicles and pedestrians through: - direct frontage to a properly constructed public road or to common property having a direct frontage to a properly constructed public road created under a community management statement, and - providing access appropriate for the type of vehicle associated with development.	**AO6** Lots are designed to achieve safe vehicle and pedestrian access in accordance with the *Engineering Design Planning Scheme Policy*.
PO7 Reconfiguration involving the creation of new roads must: - provide for the safe, efficient and convenient movement for all modes of transport - are designed and constructed to support their intended function for all relevant design vehicle types - provide safe and easy access to the frontage of lots - are designed and constructed to give priority to pedestrian and bicycle pathways at intersections - where practicable, align with open space corridors and waterways, and - where appropriate provide connections to adjoining land.	No acceptable outcome is nominated
PO8 New roads include streetscape and landscape treatments that: - create an attractive and legible environment which establishes character and identity - maintain important views and vistas where possible	No acceptable outcome is nominated

Performance Outcomes	Acceptable Outcomes
- enhance safety and comfort, and meet user needs - complement the function of the street in which they are located by reinforcing desired traffic speed and behaviour - support safe pedestrian and cycling movement - maximise infiltration of stormwater runoff wherever practicable, and - minimise maintenance and whole of lifecycle costs.	
PO9 Rear lanes: - provide appropriate width to enable safe vehicle movement, including service vehicles - connect to other streets at both ends - enable safe access into and out of garages - avoid a direct through–route alternative for vehicles, cyclists or pedestrians than the adjoining street network - ensure rear yards of properties can be fenced for security, and - do not provide for visitor parking within the lane.	No acceptable outcome is nominated
Pedestrian and Cycle Infrastructure	
PO10 Reconfiguration includes appropriate pedestrian and cycle infrastructure that: - provides a high level of connectivity and permeability that links residential areas with schools; centres, community activity uses; parks, employment areas and public transport stops - provides for safe street crossings and for safety between pedestrians and cyclists - is designed taking into account topography and convenience for users, and - meets disability access standards.	No acceptable outcome is nominated
Parks and Open Space	
PO11 The design of parkland or open space: - contributes to the character of the neighbourhood or area - is safe and functions as a focal point for the neighbourhood or community - minimises the interface between residential lots and open space through appropriate treatments including alignment, fencing and landscaping - maximises road frontage to facilitate casual surveillance - incorporates natural areas including important local vegetation, waterways, ridgelines, coastal access, wetlands - preserves landscape features important to the scenic amenity of a locality - is linked to existing parkland or open space networks	No acceptable outcome is nominated

Performance Outcomes	Acceptable Outcomes
wherever possible - offers a broad range of informal and formal experiences to the community; and - is cost effective to maintain.	
PO12 The location of parkland or open space is conveniently located to residential neighbourhoods.	**AO12** Parkland or open space is provided within 500m of all residential dwellings.
PO13 Open space for conservation purposes protects riparian corridors, beach front vegetation, endangered plant communities and wildlife habitat and movement corridors.	No acceptable outcome is nominated.

4. Interpretation

The following is a list of the definitions for defined uses used throughout the PTP Plan of Development.

Where a proposed use does not fit within one of the following use definitions it will be considered as an undefined use. Within all Precincts, an undefined use will require Impact Assessment and will be assessable against the Planning Scheme.

Administrative Definitions are as per Schedule 1 Table SC1.2.2 of the Planning Scheme.

Air Services - Premises used for any of the following:

- the arrival and departure of aircraft
- the housing, servicing, refuelling, maintenance and repair of aircraft
- the assembly and dispersal of passengers or goods on or from an aircraft
- any ancillary activities directly serving the needs of passengers and visitors to the use
- associated training and education facilities
- aviation facilities.

Bar - Premises used primarily to sell liquor for consumption on the premises and that provides for a maximum capacity to seat sixty persons at any one time. The use may include ancillary sale of food for consumption on the premises and entertainment activities.

Caretakers Accommodation - A dwelling provided for a caretaker of a non–residential use on the same premises.

Child Care Centre - Premises used for minding, education and care, but not residence, of children.

Club - Premises used by persons associated for social, literary, political, sporting, athletic or other similar purposes for social interaction or entertainment. The use may include the ancillary preparation and service of food and drink.

Community Use - Premises used for providing artistic, social or cultural facilities and community support services to the public and may include the ancillary preparation and provision of food and drink.

Examples include: Art gallery, community centre, community hall, library, museum

Dual Occupancy - Premises containing two dwellings on one lot (whether or not attached) for separate households.

Dwelling House - A residential use of premises for one household that contains a single dwelling. The use includes domestic out buildings and works normally associated with a dwelling and may include a secondary dwelling.

Emergency Services - Premises used by government bodies or community organisations to provide essential emergency services or disaster management services including management support facilities for the protection of persons, property and the environment.

Environment Facility - Facilities used for the conservation, interpretation and appreciation of areas of environmental, cultural or heritage value.

Food and Drink Outlet - Premises used for preparation and sale of food and drink to the public for consumption on or off the site. The use may include the ancillary sale of liquor for consumption on site.

Function Facility - Premises used for conducting receptions or functions that may include the preparation and provision of food and liquor for consumption on site.

Garden Centre - Premises used primarily for the sale of plants and may include sale of gardening and landscape products and supplies where these are sold mainly in pre–packaged form. The use may include an ancillary food and drink outlet.

Health Care Services - Premises for medical, paramedical, alternative therapies and general health care and treatment of persons that involves no overnight accommodation.

Home Based Business - A dwelling used for a business activity where subordinate to the residential use.

Hotel - Premises used primarily to sell liquor for consumption. The use may include short–term accommodation, dining and entertainment activities and facilities.

Indoor Sport and Recreation - Premises used for leisure, sport or recreation conducted wholly or mainly indoors.

Landing - A structure for mooring, launching, storage and retrieval of vessels where passengers embark and disembark.

Major electricity Infrastructure - All aspects of development for either the transmission grid or electricity supply networks as defined under the *Electricity Act 1994.* The use may include ancillary telecommunication facilities.

Market - Premises used for the sale of goods to the public on a regular basis, where goods are primarily sold from temporary structures such as stalls, booths or trestle tables. The use may include entertainment provided for the enjoyment of customers.

Multiple Dwelling - Premises containing three or more dwellings for separate households.

Nature Based Tourism - The use of land or premises for a tourism activity, including tourist and visitor short–term accommodation that is intended for the conservation, interpretation and appreciation of areas of environmental, cultural or heritage value, local ecosystem and attributes of the natural environment. Nature–based tourism activities typically:

- maintain a nature based focus or product
- promote environmental awareness, education and conservation
- carry out sustainable practices.

Examples include: Environmentally responsible accommodation facilities including lodges, cabins, huts and tented camps

Office - Premises used for an administrative, secretarial or management service or the practice of a profession, where no goods or materials are made, sold or hired and where the principal activity provides for one or more of the following:

- business or professional advice
- service of goods that are not physically on the premises
- office based administrative functions of an organisation.

Outdoor Sport and Recreation - Premises used for a recreation or sport activity that is carried on outside a building and requires areas of open space and may include ancillary works necessary for safety and sustainability. The use may include ancillary food and drink outlet(s) and the provision of ancillary facilities or amenities conducted indoors such as changing rooms and storage facilities.

Park - Premises accessible to the public generally for free sport, recreation and leisure, and may be used for community events or other community activities. Facilities may include children's playground equipment, informal sports fields and ancillary vehicle parking and other public conveniences.

Parking Station - Premises used for parking vehicles where the parking is not ancillary to another use.

Renewable Energy Infrastructure - Premises used for the generation of electricity or energy from renewable (naturally reoccurring) sources.

Resort Complex - Premises used for tourist and visitor short–term accommodation that include integrated leisure facilities including:

- restaurants and bars
- meeting and function facilities
- sporting and fitness facilities
- staff accommodation
- transport facilities directly associated with the tourist facility such as a ferry terminal and air services.

Retirement Facility - A residential use of premises for an integrated community and specifically built and designed for older people. The use includes independent living units and may include serviced units where residents require some support with health care and daily living needs. The use may also include a manager's residence and office, food and drink outlet, amenity buildings, communal facilities and accommodation for staff.

Rooming Accommodation - Premises used for the accommodation of one or more households where each resident:

- has a right to occupy one or more rooms
- does not have a right to occupy the whole of the premises in which the rooms are situated
- may be provided with separate facilities for private use
- may share communal facilities or communal space with one or more of the other residents.

The use may include:

- rooms not in the same building on site
- provision of a food or other service
- on site management or staff and associated accommodation.

Facilities includes furniture and equipment as defined in the *Residential Tenancies and Rooming Accommodation Act 2008*.

Examples include: Boarding house, hostel, off–site student accommodation

Sales Office - The temporary use of premises for displaying a land parcel or buildings that can be built for sale or can be won as a prize. The use may include a caravan or relocatable dwelling or structure.

Service Station - Premises used for the sale of fuel including petrol, liquid petroleum gas, automotive distillate and alternative fuels. The use may include, where ancillary, a shop, food and drink outlet, maintenance, repair servicing and washing of vehicles, the hire of trailers, and supply of compressed air.

Shop - Premises used for the display, sale or hire of goods or the provision of personal services or betting to the public.

Short Term Accommodation - Premises used to provide short–term accommodation for tourists or travellers for a temporary period of time (typically not exceeding three consecutive months) and may be self–contained. The use may include a manager's residence and office and the provision of recreation facilities for the exclusive use of visitors.

Examples include: Motel, backpackers, cabins, serviced apartments, accommodation hotel

Substation - Premises forming part of a transmission grid or supply network under the Electricity Act 1994, and used for:

- converting or transforming electrical energy from one voltage to another
- regulating voltage in an electrical circuit
- controlling electrical circuits
- switching electrical current between circuits
- a switchyard, or
- communication facilities for 'operating works' as defined under the *Electricity Act 1994* or for workforce operational and safety communications.

Telecommunications Facility - Premises used for systems that carry communications and signals by means of radio, including guided or unguided electromagnetic energy, whether such facility is manned or remotely controlled.

Tourist Attraction - Premises used for providing on– site entertainment, recreation or similar facilities for the general public. The use may include provision of food and drink for consumption on site.

Tourist Park - Premises used to provide for accommodation in caravans, self–contained cabins, tents and similar structures for the public for short term holiday purposes. The use may include, where ancillary, a manager's residence and office, kiosk, amenity buildings, food and drink outlet, or the provision of recreation facilities for the use of occupants of the tourist park and their visitors, and accommodation for staff.

Transport Depot - Premises used for the storage, for commercial or public purposes, of more than one motor vehicle. The use includes premises for the storage of taxis, buses, trucks, heavy machinery and uses of a like nature. The term may include the ancillary servicing, repair and cleaning of vehicles stored on the premises.

Utility Installation - Premises used to provide the public with the following services:

- supply or treatment of water, hydraulic power or gas
- sewerage, drainage or stormwater services
- transport services including road, rail or water
- waste management facilities, or
- network infrastructure.

The use includes maintenance and storage depots and other facilities for the operation of the use.

5. Urban Design and Environmental Guidelines

The intent of these guidelines is to assist in the design of development within the PTP Development Area through providing information on application requirements, design and siting criteria. This information is to be considered in conjunction with the relevant codes contained or referenced within the PTP Plan of Development.

Table 2 Urban Design and Environmental Guidelines

Urban Design and Environmental Guidelines
Application Requirements
• All proposals for development shall be accompanied by appropriate plans indicating the layout and design of that development and the manner in which the development requirements contained within the PTP Plan of Development are incorporated in the proposal. • Each application for a development permit shall include an assessment of the particular characteristics of the site and of its setting, sufficient to facilitate an adequate and appropriate assessment of the relevant development requirements.
Overarching Design Principles
• Development proposals are to minimise impacts on the local environment and amenity. • Design and construction practices shall: - retain and protect identified significant vegetation; and - remove only vegetation necessary to provide a clear building area. • On any development site, vegetation shall not be cleared: - on the crests of ridgelines; - on land prone to erosion; - on land which is visually sensitive; - along flora and fauna corridors; - from areas which require protection as elements of the overall open space network or for other environmental considerations; or - on riparian areas, wetlands, areas subject to an erosion control plan or on adjacent areas; unless such vegetation is invasive or noxious. • All built elements and earthworks within a proposed development shall be undertaken in such a way as to assist in ensuring that: - there is no permanent scarring of the landscape; - retained vegetation and drainage corridors are protected; - the local character and amenity is retained and enhanced; - the amenity and use of adjoining premises is not prejudiced; - development is appropriately integrated in locations which are of high scenic value; - the integrity of the setting is maintained and enhanced; - it is integrated with adjoining public space; and - appropriate buffer spaces are included. • Valuable and viable areas of natural habitat are conserved by their incorporation within the open space system where appropriate.

Urban Design and Environmental Guidelines

Subdivision Layout

- Where appropriate, subdivision layouts shall preserve and enhance the local natural and rural landscapes and, in particular shall:
  - identify, retain and enhance areas of high protection value;
  - preserve and/or provide adequate buffers, where appropriate, to adjoining uses;
  - preserve and/or provide adequate buffers along water corridors and in/or adjacent to wetlands; and
  - retain vegetation which has high scenic quality or which minimises the impact of the development.
- Where possible, property boundaries shall be suitably aligned with adjoining properties and with road reserves to provide continuation of the natural vegetation by way of open space corridors.
- Prominent elevated areas including Hummock Hill and ridges to the west of the proposed trans-island boulevard are to be included in the green space network to maintain the visual values of these areas as vegetated areas.

Building Design

- Structures shall be designed to enhance and maintain the urban form and continuity of the streetscape of existing development with the PTP Development Area.
- Planning and design of new structures shall respond to the dictates of regional subtropical climate and where possible utilise methods and materials for climate control e.g. cross ventilation, verandahs, awnings, lattice, blinds etc.
- Features such as roof overhangs, verandahs, shade devices and landscaping should be used to provide shade to windows and outdoor spaces during summer and some sun penetration in winter.
- Development is to incorporate design elements which demonstrate the principles of ecological sustainability, including:
  - reduction of power consumption by maximising the use of passive thermal control measures through the use or renewable energy resources and energy efficient building design;
  - minimisation of adverse effects resulting from stormwater run-off;
  - minimisation of adverse impacts resulting from the emission of noise, dust, gas or other forms of air pollution, both during the construction phase of any development and whilst the development operates;
  - provision of responsible land management, incorporating where appropriate, Environmental management Plans, to avoid or minimise land and water degradation; and
  - provision of buffering between incompatible uses or between development and environmentally sensitive significant areas.

Building Scale

- Building treatments and elements of new buildings and extensions and/or renovations shall be compatible and complementary in character, scale and height, with that of nearby buildings and any development shall make a positive contribution to the built form of the local area.
- Buildings are to be designed and sited such that they are compatible with the surrounding natural environment rather than dominating the landscape.

Colour, Texture, and Reflectance

- Consideration shall be given to the suitability of the colour, texture and reflectance of all external surfaces of any proposed buildings.
- The use of highly reflective materials and/or strong bright colours is discouraged.
- Any building or its roof that may be should be constructed of material that is of a suitable neutral colour.
- Buildings are encouraged to utilise lightweight construction materials to assist in minimising ground disturbance and vegetation.

Urban Design and Environmental Guidelines

Roof Line and Form

- Roof line and form shall generally be skillion or pitched, although innovative forms in harmony with a sub-tropical building character that responds well to Queensland's climate may be appropriate.

Vehicle Parking Requirements

- All development shall incorporate appropriate car parking that does not conflict with the service and access needs of local residents and businesses.
- Vehicle parking areas should have a minimal impact on the landscape and should not detract from the enjoyment or safety of local residents and businesses.
- The design of vehicle parking areas and associated pedestrian circulation shall facilitate the access needs of disabled and aged persons.
- The design of parking areas shall minimise the impact on the local amenity through:
  - provision of shade trees and other vegetation;
  - minimising earthworks; and
  - being identifiable and distinctive though not excessively conspicuous.
- All car parking areas shall be appropriately designed and landscaped so as to present as an integrated component of the overall site development.
- Cycle parking and bus parking/stopping areas shall be provided, where appropriate, within the proposed development.

Road Corridors

Preferred Roadway and Driveway Character

- The roads and driveways within the PTP Development Area are to be finished to a high standard and compatible with the character of the surrounding natural landscape. Distinctive landscape themes should be established and maintained.
- Planting on road verges is encouraged as it forms part of a view corridor with use of landscape treatments to establish an appropriate hierarchy of roads and to create a cohesive visual character.
- Important landscape features components should be safeguarded through appropriate sitting and design of roads and associated works.

Road Design

- Roadways shall;
  - be designed to minimise their visual and physical impacts on the landscape including the prevention of soil erosion and the retention of vegetation;
  - be of a matching character to the landscape through which they pass, both in the moulding of batters and verges and in the plant species used;
  - be sited so that they have minimal visual and physical impact on the landscape;
  - provide vegetation which assists in reducing the visual impact; and
  - be designed and laid out so as to have minimal impacts on adjoining development including ameliorative soft and hard landscape works.

Landscape Works

- Landscape works undertaken within the PTP Development Area is to reinforce and enhance the existing local character of Hummock Hill Island. In particular, hard landscape elements such as roadways and services infrastructure and other built elements shall appear as integrated elements within the total landscape. In cleared areas vegetation shall be used as a means to visually soften and integrate the development into the landscape.
- Vegetation which is to be protected shall be conserved and integrated within the proposed development. Minimising vegetation clearing during construction will assist in minimising site impacts and reduce the area of required constructed landscape. Retained vegetation should include both trees

Urban Design and Environmental Guidelines

and understorey

- Buffer landscape works and appropriate urban design elements shall be required at locations abutting major roads and between potentially conflicting activities.
- Riparian corridors will be preserved in their natural state with minimal crossings, and flora and fauna corridors shall be preserved and enhanced, where appropriate.
- Endemic vegetation shall be the preferred dominant species in these areas in proposed landscaping works. Where non endemic plants are proposed, the landscaping plan shall indicate that the use of such plants will not affect the integrity of any ecosystem beyond the site.
- Where land abuts an environmentally sensitive area the landscape plan shall indicate what measures are proposed to minimise any potential impacts on these areas arising from proposed development. This may require submission of a management plan outlining the proposed maintenance and management.

Implementation of Landscape Works

- A landscape plan should be submitted as part of all relevant development applications providing a level of detail appropriate to the nature, scale and intensity of the proposal.
- The landscape plan shall preferably be undertaken by an appropriately qualified person and shall include the following:
  - existing vegetation, prominent landscape features, existing services locations;
  - existing and proposed surface levels, extent of cut and fill, proposed drainage corridors and building platforms;
  - staging of works; and
  - hard and soft landscape treatment including materials and species of vegetation to be used, preferred building sites, location of proposed services and siting of parkland.
- Rehabilitation and landscape works shall be appropriately staged within a development and shall be carried out within a specified time period and include appropriate maintenance.

Fauna and Flora Protection

- An appropriate flora and fauna study shall be prepared in respect of a development proposal which may affect vegetation which is:
  - of high protection value;
  - identified as providing important fauna habitat; and
  - affected by a flora and fauna corridor.
- The study shall be prepared by an appropriately qualified person and shall:
  - detail the flora and fauna species on the site;
  - identify the local and regional ecological values of the flora and fauna;
  - determine the impact of the proposed development on flora and fauna contained on the site and in the surrounding area;
  - address how it is proposed to preserve the integrity of the remaining flora and fauna on the site; and
  - address how it is proposed to sustain flora and fauna on adjoining sites, which are affected by the proposal.

Community Values

Focal Points

- Civic and community buildings and spaces shall be designed as attractive landmark features which shall respond positively to the landscape as a visually attractive and functional community focus. The community focal points in the PTP include the Hummock Hill Village (V1 – V4) and the Colosseum Village (B4).

Urban Design and Environmental Guidelines

Visual Relationships

- Significant visual elements throughout the PTP Development Area shall be preserved and enhanced through appropriate streetscapes and open space design and management.
- The maintenance of scenic qualities and the minimisation of adverse visual impacts shall be enhanced through the retention of the scenic values of vegetation and through appropriate urban form.

Hummock Hill Island

Pacificus Tourism Project

Appendix 4 PTP Offset Strategy

Eaton Place Pty Ltd

Pacificus Tourism Project

Terrestrial Offset Strategy Rev 2

Document No. 2016-06-02

12 June 2016

Revision	Date	Description	Prepared	Reviewed	Approved		
					Study Manager	Sign-off	Client
A	13/11/2015	Draft for client review	DMM	JK	DMM	DMM	Eaton Place Pty Ltd
0	12/1/2016	For Distribution	DMM	JG	DMM	DMM	Eaton Place Pty Ltd
1	24/03/2016	For Distribution	DMM	JG	DMM	DMM	Eaton Place Pty Ltd
2	2/06/2016	For Distribution	DMM	JG	DMM	DMM	Eaton Place Pty Ltd

Item	Page	Section	Comments
1	3	Introduction	Reference is provided to relevant section in DoE Approval Decision
2	4	1.1	New sub-section added addressing relevant EHP Adequacy Advice comments from January 20 2016
3	5	2.0	Extent of endangered, of concern and least concern clearing minor corrections based on field data.
4	5	Table 2.1	Minor changes to clearing extents of some RE's based on field data.
5	6	Table 2.2	Minor changes to clearing extents of some RE's based on field data.
6	7	Table 2.3	Minor changes to anticipated offset areas based on field RE data.
7	5	1.1.1	Change to statement EHP Comment 17
8	5	1.1.1	Additional statement on EHP Comment 16 relating to spatial landscape fragmentation and connectivity tool.
9	6	2.0	Additional detail provided on output from Q spatial landscape fragmentation and connectivity tool.

* *Use after Rev. 0*

CONTENTS

TABLES

ATTACHMENTS

Report Prepared by Darren Maxwell on Behalf of Eaton Place Pty Ltd.

1. INTRODUCTION

Eaton Place Pty Ltd is the proponent for the Pacificus Tourism Project (PTP) which is currently in the approval phase. PTP is located on Hummock Hill Island (HHI), 30 km south east of Gladstone in Central Queensland and 30 minutes' drive from Tannum Sands and Boyne Island.

PTP is a $950 million private sector project of both State and regional significance. The project proposes a low-rise, low-impact tourism and residential development based on principles of Ecologically Sustainable Development (ESD).

Eaton Place Pty Ltd, the proponent for PTP, holds a Special Lease (SL) (SL 19/52155) over the entirety of Lot 3 on FD841442 (1,163 ha) on HHI which gives the proponent the right to develop the land for business, industrial, commercial, residential, tourism and recreational purposes.

The proponent has strategically, rigorously and iteratively designed PTP to ensure minimal disturbance to the physical, ecological and biological processes on HHI and within the surrounding marine environment that underpin the Matters of National Environmental Significance (MNES) values present, including the outstanding universal value (OUV) of the Great Barrier Reef World Heritage Area (GBRWHA.) In addition to the design criteria, the Environmental Management Plan (EMP) will incorporate mitigation measures developed through the environmental impact assessment to avoid where possible, minimise and manage potential impacts during the construction, operation and decommissioning phases of the development.

Whilst impacts to terrestrial ecological values have been minimised via the processes described above, Significant Residual Impacts as described in the Queensland *Environmental Offsets Act 2014* (Offsets Act) and defined in *Queensland Environmental Offsets Policy* (State Offsets Policy) - *Significant Residual Impact Guideline* will still result from the PTP. Consequently terrestrial environmental offsets will be needed to meet Queensland legislative requirements. In addition terrestrial environmental offsets have been conditioned in approvals granted under *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), these offsets (described in Part 25 b of Approval Decision EPBC 2012/6643) are subject to the provisions of *Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy* (Commonwealth Offsets Policy).

Eaton Place Pty Ltd have developed and refined the PTP through several iterations over a number of years. During this time several studies have been conducted in support of the Project examining the supply and provision of terrestrial environmental offsets, these studies include:

- 2010 Offset Study and associated DNRM approved offset proposal, undertaken by Greening Australia Queensland,[1]
- 2014 Offset Study, A Review of Potential Offset Sites for the Prevention of Consequential Development undertaken by Amec Foster Wheeler, and

[1] 2010 Study was previously approved in principle by Qld Department of Environment Resource Management as having meet conditions of Policy for Vegetation Management Offsets under *Queensland Vegetation Management Act 1999*.

- 2015 Offset Study, A Preliminary Review of Potential Watercourse Offset Sites undertaken by Environment Conservation and Offset Services.

As a result of these studies the availability, condition and extent of terrestrial environmental offsets required to meet potential PTP approval conditions is well characterised. In addition to those studies the proponent has established and maintained longstanding relationships with local landholders who are able to provide offsets.

1.1 Scope

This report outlines the potential environmental offset requirements of the PTP. It includes a description of the values that will be offset and outlines the method used to determine those values. The report provides a summary of the area impacted by PTP and the environmental offsets that will be employed to mitigate those impacts. The proposed approach and principles to find, secure and manage offset sites is also outlined.

The PTP offset liability as determined under *Queensland Environmental Offsets Policy* (State Offset Policy) is described along with the offset requirement anticipated under conditions provided in EPBC approvals[2].

State and Commonwealth offset requirements are addressed separately in this report reflecting the different regulatory and policy requirements that potentially apply at each level of Government. However it is anticipated that where environmental values are compatible offsets will be co-located.

1.1.1 Response to EHP Adequacy Advice of 20 January 2016

The purpose of this document is to outline the Projects intended approach to the delivery of terrestrial environmental offsets that will meet the relevant approval requirements of State and Commonwealth Governments. This document is not intended to directly address the specific requirements of the State Offset Policy and its associated framework. Further detailed in field study is required to establish the ecological condition of clearing and offset sites and therefore definitively establish offset multipliers and thus the quantum and extent of offsets.

The following section provides response to relevant EHP comments from 20 January 2016.

EHP comment 13. Section 25 b of the DoE Approval Decision EPBC 2012/6643 requires the Project to establish a 350 ha offset within the Baffle Creek Catchment for the purpose of improving protection of the World Heritage Values of the Great Barrier Reef World Heritage Are.

EHP comment 15 & 16 Further detailed studies are required to establish the specific extent of offsets for the project and to directly address State offset approval criteria including presentation of the output from the Q spatial landscape fragmentation and connectivity tool.

[2] EPBC Offset requirement is based on recent discussions with Commonwealth Department of the Environment

EHP comment 16 Q spatial landscape fragmentation and connectivity tool was used to assess the project for connectivity offsets the results showed no significant impact to connectivity.

EHP comment 17. The proponent intends to meet the requirements of the Qld Government's current offsets policies.

EHP comment 18. Refer to response to EHP comment 15 & 16.

2. SUMMARY OF PROJECT CLEARING AND OFFSET REQURIEMENTS

Table 2.1 provides a summary of clearing by Regional Ecosystem (RE) that will occur as a consequence of the Project, regional ecosystem mapping for the development area is depicted in **Attachment 1**. This summary is based on clearing of the entire development foot print, however project design includes areas of retained remnant vegetation as well as retained mature tree specimens. In total 410 ha of remnant vegetation occurs within the development footprint including

- 2.9ha Endangered Regional Ecosystem
- 153.14 Concern Regional Ecosystem
- 253.99 Least Concern Regional Ecosystem

Table 2.1 Summary Clearing by Regional Ecosystem

Regional Ecosystem	VM Status	Biodiversity Status	Total Area (ha)
12.1.1[3]	Of Concern	Endangered	0.25
12.2.11	Least Concern	No Concern	176.50
12.3.3	Endangered	Endangered	0.90
12.3.10	Endangered	Endangered	2.00
12.12.7	Least Concern	No Concern	79.34
12.12.12	Of Concern	Of Concern	152.68
12.12.19	Of Concern	Of Concern	0.21

Table 2.2 provides a summary of clearing by offset values and includes relevant Matters of State Environmental Significance (MSES) listed in Schedule 2 of the *Queensland Environmental Offset Regulation 2014*. Values have been selected based on the offset requirements outlined in State Offsets Policy and the output from spatial analysis, refer to **Attachment 2** and **Attachment 3** for graphical representation of MSES values. Spatial analysis included desktop assessment using the Queensland Government / Q Spatial Landscape Fragmentation and Connectivity Tool which showed no signficnat connectivity impact. Specific details on the output of the Queensland Government / Q Spatial Landscape Fragmentation and Connectivity Tool will be provided in subsequent technical documents that directly address the requirements of the State Offset Policy and associated approval criteria.

[3] RE12.1.1 occurs as the subdominant community in an heterogeneous mapping unit associated with RE12.2.11 the actual impacted area has been established on site.

Table 2.2 Summary of Significant Residual Impact by Offset Value

Value	Regional Ecosystem	Total Area (ha)
MSES – Endangered Regional Ecosystem	12.3.3 / 12.3.10	2.90
MSES – Of Concern Regional Ecosystem	12.12.12 / 12.1.1 / 12.12.19	153.14
MSES – Wetland	Nil	0
MSES - Watercourse[4]	12.12.7 / 12.12.12	1.50
MSES – Essential Habitat[5]	12.12.12	147
MSES – Connectivity& Fragmentation	Nil	0

2.1 Offset Requirements

The following sections outline the anticipated offsets required to meet state and commonwealth approvals. Estimates of offset areas are based on the State Offsets Policy (for state offsets) and advice from Commonwealth Department of Environment (DoE) for EPBC offsets.

The PTP intends to establish proponent driven land based offsets to meet offset obligations with the offsets secured and managed based on the conditions described in State Offsets Policy.

2.1.1 State Offset requirements

Based on desktop spatial analysis of PTP site, assessment against State Offsets Policy and the output of the Land Based Offsets Multiplier Calculator it is anticipated that the following offset multipliers will apply for land based offsets:

- Offset multiplier of 4 for remnant offset
- Offset multiplier of 3.15 for regrowth offsets

These multipliers are draft and subject to field habitat assessment of both clearing and potential offset sites, however they serve as a guide for general assessment and an

[4] MSES for watercourses is based on the defined distance as described in Appendix 3 of the State Offset Policy all watercourses are first order streams.

[5] Vegetation within the PTP development footprint is mapped as Essential Habitat for Koala, impacts do not meet the conditions of significant residual impact as described under Significant Residual Impact Guideline Section 5.1.

indication of the likely quantum of offsets required at the state level. It is intended that the majority of offsets will be based on remnant vegetation.

Table 2.3 Summary of State Offset Requirements

Value	Area of Clearing (ha)	Offset Area (ha)
MSES – Endangered Regional Ecosystem	2.90	11.60
MSES – Of Concern Regional Ecosystem	153.14	612.60
MSES - Watercourse[6]	1.50	6

2.1.2 Commonwealth Offset Requirements

DoE has conditioned 350ha of commonwealth offsets located on watercourses within the Upper Baffle Creek Catchment. The principal aim of these offsets will be to improve catchment condition and subsequently runoff to Great Barrier Reef Marine Park.

From previous offset studies Commonwealth offsets will likely be based on a mix of remnant and regrowth vegetation and will be co-located with any state offset values not resolved within Lot 3 FD841442.

[6] MSES for watercourses is based on the defined distance as described in Appendix 3 of the State Offset Policy all watercourses are first order streams.

3. PROPOSED APPROACH TO OFFSET DELIVERY

Proponent driven land based offsets provided to meet State offset requirements are planned to be substantially located within the balance of Lot 3 FD841442, refer to **Attachment 4** for further details. The balance of the lot is approximately 744 ha and includes appropriate environmental / offset values aligning with policy requirements for State Offsets. Additional offsets will be located in the Upper Baffle Creek Catchment established in accordance with Commonwealth offset requirements and consist of a mixture of remnant and regrowth vegetation.

3.1 Proposed Approach to Offset Approval

Once offset conditions are finalized, it is intended that offset approval documentation will be prepared for assessment in accordance with the conditions outlined in State Offsets Policy.

Documentation will include the following:

- Summary document outlining the characteristics of the land based offsets and describing how proposed offsets comply with State and Commonwealth Offset Policies / offset approval conditions
- Habitat assessment of clearing and offset sites to finalise offset multipliers and support management planning
- Offset Delivery Plan
- Details and documentation for legally securing offsets, and
- Appropriate forms complying with State Offset Policy.

ATTACHMENT 1– DEVELOPMENT AREA REGIONAL ECOSYSTEM MAP

Eaton Place Pty Ltd - Pacificus Tourism Project

Development Area Regional Ecosystem Mapping

ISSUE DATE	AUTHOR	QA CHECK	APPROVED	REV.	REVISION NOTE
11/11/2015	DMM	JG	JG	A	Issued for Review

WORK REQUEST NUMBER PTP - 004

DATA SOURCES
Development Footprint Digitised from MP-0010-F-Concept-Plan
Version 8.0 Regional Ecosystem Survey and Mapping
Produced by the Queensland Herbarium. Science Delivery. DSITI
Cadastral Drainage 100K - Queensland © State of Queensland 2010
Queensland DCDB
Topomap Raster 250K Mosaic

N

0 0.6 1.2
Kilometres

1:30 000 (A3) GDA 1994 MGA Zone 56

LEGEND

- Pacificus Draft Development Area
- Pacificus Lot Boundary
- Hummock Hill Island DCDB
- Non-remnant / regrowth
- Endangered - Sub-dominant
- Endangered - Dominant
- Of Concern - Sub-dominant
- Of Concern - Dominant
- Not Of Concern
- Plantation forest
- Water

LOCATION DIAGRAM

ATTACHMENT 2– DEVELOPMENT AREA MAP OF MSES

Eaton Place Pty Ltd - Pacificus Tourism Project

Matters of State Environmental Signficance

ISSUE DATE	AUTHOR	QA CHECK	APPROVED	REV	REVISION NOTE
11/11/2015	DMM	JG	JG	A	Issued for Review

WORK REQUEST NUMBER PTP - 005

DATA SOURCES
Development Footprint Digitised from MP-0010-F-Concept-Plan
Version 8.0 Regional Ecosystem Survey and Mapping
Produced by the Queensland Herbarium. Science Delivery, DSITI
Cleared Drainage 100K - Queensland © State of Queensland 2010
Queensland DCDB
Hummock Raster 250K Mosaic

PACIFICUS

N

0 0.6 1.2
Kilometres

1:30,000 (A3) GDA 1994 MGA Zone 56

LEGEND

- Pacificus Development Area Watercourses
- Matters Of State Environmental Signficance
- Pacificus Draft Development Area
- Pacificus Lot Boundary
- Hummock Hill Island DCDB

LOCATION DIAGRAM

ATTACHMENT 3 – DEVELOPMENT AREA MAP OF ESSENTIAL HABITAT & WATERCOURSE AREAS

Essential Habitat Areas

ISSUE DATE	AUTHOR	QA CHECK	APPROVED	REV.	REVISION NOTE
11/11/2015	DMM	JG	JG	A	Issued for Review

WORK REQUEST NUMBER PTP - 006

DATA SOURCES
Development Footprint Digitised from MP-0010-F-Concept-Plan
Version 8.0 Regional Ecosystem Survey and Mapping
Produced by the Queensland Herbarium, Science Delivery, DSITI
Ordered Drainage 100K - Queensland © State of Queensland 2010
Queensland DCDB
Landmap Raster 250K Mosaic

ATTACHMENT 4 - REGIONAL ECOSYSTEM MAPPING BALANCE OF LOT 3 FD841442

Eaton Place Pty Ltd - Pacificus Tourism Project

Regional Ecosystem Balance of Lot3 FD841442

ISSUE DATE	AUTHOR	QA CHECK	APPROVED	REV.	REVISION NOTE
11/11/2015	DMM	JG	JG	A	Issued for Review

WORK REQUEST NUMBER PTP - 007

DATA SOURCES
Development Footprint Digitised from MP-0010-F-Concept-Plan
Version 8.0 Regional Ecosystem Survey and Mapping
Produced by the Queensland Herbarium, Science Delivery, DSITI
Ordered Drainage 100K - Queensland © State of Queensland 2010
Queensland DCDB
Topmap Raster 250K Mosaic

N

0 0.6 1.2
Kilometres

1:30,000 (A3) GDA 1994 MGA Zone 56

LEGEND

- Pacificus Draft Development Area
- Pacificus Lot Boundary
- Hummock Hill Island DCDB
- Non-remnant / regrowth
- Endangered - Sub-dominant
- Endangered - Dominant
- Of Concern - Sub-dominant
- Of Concern - Dominant
- Not Of Concern
- Plantation forest
- Water

LOCATION DIAGRAM

Path: C:\Mxd\Pacificus\Spatial_data\RE_Balance_of_Lot_3\RE_Balance_of_Lot_3.mxd

Hummock Hill Island

Pacificus Tourism Project

Appendix 5 IDAS Approvals

HHID EIS – Coordinator-General's Report			PTP			Comments on Changes
Legislation	Administering Authority	Approvals/Applicable Provisions	Legislative/Policy Change	Administering Authority Change	Approvals/Applicable Provisions	
Commonwealth Legislation						
Environment Protection and Biodiversity Conservation Act 1999	Department of Environment and Water	EPBC Act Approval – controlled action	No change Current version: Compilation No. 45	Department of the Environment	EPBC Act Approval – controlled action	Application and approval process complete
State Legislation						
State Development and Public Works Organisation Act 1971	Coordinator-General Department of Infrastructure and Planning	Significant Project for which an environmental impact statement is required	No change Current Version: 22 July 2015	Coordinator-General Department of State Development	Significant Project for which an environmental impact statement is required Application for Project Change - current	Coordinator-Generals Report February 2011 Application for Project Change underway – change to reflect EPBC Act approved project
Integrated Planning Act 1997 *Sustainable Planning Act 2009* *Sustainable Planning Regulation 2009*	Department of Infrastructure and Planning	IDAS approvals as required by the Miriam Vale Planning Scheme Approval requirements of Schedule 8 These approval requirements are addressed under the applicable legislation	*Sustainable Planning Act 2009* *Sustainable Planning Regulation 2009*	Department of Infrastructure, Local Government and Planning	IDAS Approvals as required by the Gladstone Regional Council Planning Scheme and the project Plan of Development Approval requirements of Schedule 3 These approval requirements are addressed under the applicable legislation	The project EIS was lodged while the *Integrated Planning Act 1997* however the Coordinator-General's report references the *Sustainable Planning Act 2009*. The Material Change of Use (Preliminary Approval) application was lodged with Gladstone Regional Council under the provisions of the *Integrated Planning Act 1997*. This application is current however has not been decided by council.
		State Planning Policy 1/92 – Development and the Conservation of Agricultural Land	State Planning Policy – July 2014 Part E—Interim development assessment requirements	Department of Infrastructure, Local Government and Planning	Conservation of agricultural land is not addressed as part of the State Planning Policy	The Part E—Interim development assessment requirements must be applied by local government until the SPP has been appropriately integrated into the relevant local planning scheme. The Gladstone Regional Council Planning 2015 has integrated the state interests so assessment against the provisions of the State Planning Policy would not be required for applications lodged under the *Sustainable Planning Act 2009* and the current planning scheme.
		State Planning Policy 2/02 – Planning and Managing Development Involving Acid Sulfate Soils			The assessment of ASS has been removed from the SPP	
		State Planning Policy 2/03 – Mitigating the Adverse Impacts of Flood, Bushfire and Landslide	State Planning Policy – July 2014 Part E—Interim development assessment requirements State interest—natural hazards, risk and resilience		Addressed in Part E—Interim development assessment requirements State interest—natural hazards, risk and resilience	
		Wide Bay Burnett Regional Plan Central Queensland Regional Growth Management Framework	*Regional Planning Interests Act 2014* *Regional Planning Interests Regulation 2014*		Central Queensland Regional Plan	Wide Bay Burnett Regional Plan no longer current No Areas of regional Interest identified for Hummock Hill Island

HHI EIS – Coordinator-General's Report			PTP			Comments on Changes
Legislation	Administering Authority	Approvals/Applicable Provisions	Legislative/Policy Change	Administering Authority Change	Approvals/Applicable Provisions	
Environmental Protection Act 1994 *Environmental Protection Regulation 2008*	Environmental Protection Authority	Material Change of Use Permit – establishment of new ERAs. The Hummock Hill Island Development would require development permits to operate the following ERAs: > ERA 15 (Waste Water Treatment Plant) > ERA 19 (Dredging)	No change Current Version: 2 October 2015 > ERA 15 now ERA 64 > ERA 19 now ERA 16	Department of Environment and Heritage Protection	The development may require an Environmental Authority for the following possible Environmentally Relevant Activities: > ERA 6 – Asphalt manufacturing > ERA 8 - Chemical storage > ERA 63 – Sewage treatment > ERA 64 – Water treatment It is not anticipated that ERA 16 will be required, however this will be determined during the design of the bridge and boat ramp.	Depending on the proposed application process the ERA application may be considered to be a Material Change of Use under the provisions of Schedule 3 of the Sustainable Planning Act 2009 (if lodged in association with an MCU application) or be lodged directly to DEHP for assessment under the *Environmental Protection Act 1994*.
			No change Current Version: 2 October 2015	Department of Environment and Heritage Protection	Operational Works - Operational work that is high impact earthworks in a wetland protection area	The applicability of this approval will depend on the extent of the development and the nature of proposed works within the vicinity of the mapped wetland buffer.
Coastal Protection and Management Act 1995	Environmental Protection Authority Gladstone Regional Council *The EPA would be the assessment manager where the works are not prescribed tidal works. Where the works are prescribed tidal works, EPA would be a concurrence agency*	Operational Works Permit - Tidal Works; or some works or some works carried out completely or partly within a coastal management district.	No change Current Version: 11 September 2015	Department of Environment and Heritage Protection Gladstone Regional Council	Operational Works – Tidal Works Operational Works – works completely or partly within a coastal management district : > (i) interfering with quarry material as defined under the Coastal Protection and Management Act on State coastal land above high-water mark; > (iv) removing or interfering with coastal dunes on land, other than State coastal land, that is in an erosion prone area	The triggers for the need to apply for Operational Works - works completely or partly within a coastal management district have changed through various revisions to Schedule 3 of the *Sustainable Planning Regulation 2009*.
		State Coastal Management Plan Curtis Coast Regional Coastal Management Plan 2003	Coastal Management Plan	Department of Environment and Heritage Protection	No approval requirements	The Coastal Management Plan commenced in March 2014. It is a non-regulatory document so therefore does not trigger any approval requirements for the project. This superseded the previous documents.
Fisheries Act 1994	Department of Primary Industries and Fisheries	Operational Works - Constructing or raising waterway barrier works	No change Current Version: 2 July 2015	Department of Agriculture and Fisheries	Operational Works - Constructing or raising waterway barrier works	Operational works application required when works are being undertaken on a waterway mapped for waterway barrier works and the works are not undertaken in accordance with the provisions of a self-assessable code. Mapping of waterways has been added as a trigger for this approval.

HHI EIS – Coordinator-General's Report			PTP			Comments on Changes
Legislation	Administering Authority	Approvals/Applicable Provisions	Legislative/Policy Change	Administering Authority Change	Approvals/Applicable Provisions	
Fisheries Act 1994 cont.	Department of Primary Industries and Fisheries	Operational Works Permit - disturbance or removal of Marine Plants; and	No change Current Version: 2 July 2015	Department of Agriculture and Fisheries	Operational Works – Removal, destruction or damage of marine plants	
		Operational Works Permit – operational work completely or partly within a declared fish habitat area			Operational Works – works within a declared fish habitat area	The area 100m on either side of the centreline of the existing access track and causeway is excluded from the FHA and approvals for the bridge crossing and Boyne Channel boat ramp would not be required. This mapping has not changed.
		Resource Allocation Authority for any disturbance within a Fish Habitat Area.			No approvals	Not applicable as no works are proposed to be undertaken within a Fish Habitat Area.
Water Act 2000	Department of Natural Resources and Water	Operational Works - Taking or interfering with Water	No change Current Version: 2 October 2015	Department of Natural Resources and Mines	Operational Works – Taking or interfering with Water	The triggers for the need to apply for Operational Works - Taking or interfering with Water have changed through various revisions to Schedule 3 of the *Sustainable Planning Regulation 2009*.
Vegetation Management Act 1999	Department of Natural Resources and Water	Operational Works - Clearing of Native Vegetation	No change Current Version : 11 September 2015	Department of Environment and Heritage Protection	Operational Works – Clearing Native Vegetation	Application triggers under Schedule 3 of the *Sustainable Planning Regulation 2009* are unchanged, however there have been changes to Schedule 24.
Nature Conservation Act 1992	Environmental Protection Authority	Approval from the EPA is required to disturb, harm or destroy any species listed under the Act.	No change Current Version: 2 July 2015	Department of Environment and Heritage Protection	Permit to clear protected plants Species Management Program for Tampering with Animal Breeding Places	HHI is not mapped as having any high risk areas which trigger the need to undertake detailed vegetation assessments or approval requirements. However if during surveys EVNT flora species are identified a permit to clear protected plants will be required. Under Section 88 of the *Nature Conservation Act 1992* and Section 332 *Nature Conservation (Wildlife Management) Regulation 2006* a Species Management Program is required for 'taking' an animal or 'tampering' with an animal breeding place. Clearing associated with the PTP is likely to impact on breeding places for least concern and/or EVNT species. As such, a Species Management Program for tampering with animal breeding places is anticipated as being required.
Marine Parks Act 2004 *Marine Parks Regulation 1990* *Marine Parks (Great Barrier Reef Coast) Zoning Plan 2004*	Queensland Parks and Wildlife Service	Marine Park Permit	No change Current Version: 2 July 2015 *Marine Parks Regulation 2006*	Department of National Parks, Sport and Racing	Marine Park Permit	The project will be required to obtain a marine park permit for works associated with the bridge access and boat ramp.

HHI EIS – Coordinator-General's Report			HHI EIS – Coordinator-General's Report			Comments on Changes
Legislation	Administering Authority	Approvals/Applicable Provisions	Legislative/Policy Change	Administering Authority Change	Approvals/Applicable Provisions	
Transport Infrastructure Act 1994	Department of Main Roads	Concurrency agency, over certain thresholds, under the provisions of the *Sustainable Planning Regulation 2009*.	No change Current Version: 20 November 2015	Department of Transport and Main Roads	Concurrency agency, over certain thresholds, under the provisions of the *Sustainable Planning Regulation 2009*. Road Corridor Permit Road Works/Road Access Works in a State-controlled road Application	Under the provisions of the *Transport Infrastructure Act 1994* it is anticipated that the project works will require the need to obtain a road corridor permit and to approval for Road Works/Road Access Works. The Department of Transport and Main Roads will also be a concurrence agency for some applications required under the *Sustainable Planning Regulation 2009*.
Aboriginal Cultural Heritage Act 2003		No permits required	No change Current Version: 31 March 2013	Department of Aboriginal and Torres Strait Islander Partnerships		A Cultural Heritage Management Plan has been compiled and approved by DNRW on 17 January, 2007.
Native Title Act 1993 (Cth) *Native Title (Queensland) Act 1993*	Department of Natural Resources and Water	No permits required	No change Current Version: 28 May 2014	Department of Natural Resources and Mines	No permits required	Native Title has been extinguished over Lot 3 (development lease). Infrastructure, such as the bridge and road corridors, are to be dedicated as road reserves and not subject to Native Title.
Local Government						
Miriam Vale Planning Scheme	Gladstone Regional Council	Preliminary Approval – Material Change of use Development permits for: Material Change of Use (as per the approved Plan of Development); Reconfiguring a Lot; and Carrying out Operational Work.	Miriam Vale Planning Scheme (Superseded) Gladstone Regional Council Planning Scheme 2015	*Gladstone Regional Council*	Preliminary Approval – Material Change of use Development permits for: Material Change of Use (as per the approved Plan of Development); Reconfiguring a Lot; and Carrying out Operational Work.	A Material Change of Use – Preliminary Approval was lodged with Gladstone Regional Council in 2009. This application remains current however has yet to be decided by council.

Hummock Hill Island

Pacificus Tourism Project

Appendix 6 MSES Mapping

Queensland Government

Department of Infrastructure, Local Government and Planning

State Planning Policy

Local government development assessment

0 600 1 200 1 800 2 400

Metres

Date: 17/02/2016

Legend

Cadastre (50k)

Cadastre (50k)

MSES - High ecological value waters (watercourse)

MSES - High ecological value waters (watercourse)

MSES - Regulated vegetation (intersecting a watercourse)

MSES - Regulated vegetation (intersecting a watercourse)

MSES - High Ecological Significance wetlands

MSES - High Ecological Significance wetlands

MSES - High ecological value waters (wetland)

MSES - High ecological value waters (wetland)

MSES - Strategic Environmental Area (Designated Precinct)

MSES - Strategic Environmental Area (Designated Precinct)

MSES - Wildlife habitat

MSES - Wildlife habitat

MSES - Protected area

MSES - Protected area

MSES - Marine park

MSES - Marine park

MSES - Declared fish habitat area

MSES - Declared fish habitat area

MSES - Regulated vegetation

MSES - Regulated vegetation

MSES - Legally secured offset area

MSES - Legally secured offset area

Queensland Government

Department of Infrastructure, Local Government and Planning

State Planning Policy

Local government development assessment

Date: 17/02/2016

Hummock Hill Island

Pacificus Tourism Project

Appendix 7 Changes to Coordinator-General's Conditions

Condition	Requested or Required Changes	Suggested Rewording
Appendix 1 Schedule 1		
Condition 1 (a) Prior to the commencement of use of stage 1 of the development, the developer must enter into a social infrastructure agreement with the state to: (i) provide land within the HHID for fire and rescue and ambulance infrastructure (ii) provide land within the HHID for police infrastructure (including station, holding cells/watchhouse, residential accommodation and other necessary facilities (e.g. storage) (iii) construct fire and rescue and ambulance infrastructure (iv) construct police infrastructure (v) undertake a combination of land dedication and construction works pursuant to points (i)-(iv) above, or (vi) provide assistance, either financially or by other agreed means, to improve the current facilities responsible for ambulance and fire brigade servicing the proposed development area, or (vii) be in accordance with any other agreement reached between the developer and the relevant state authority on behalf of the state to discharge this condition, prior to the commencement of the use. (b) Any construction of fire and rescue and ambulance infrastructure, or agreement to allow the construction of fire and rescue, ambulance and police infrastructure must be by agreement with the relevant state authority to ensure compliance with contemporary operational standards for the construction of such facilities. (c) The proponent/developer must not market or advertise any agreement with the state about potential new, or upgrading of, ambulance, fire brigade or police services as part of the HHID.	No changes. Note that in recent discussions with the Department of Police, Fire and Emergency Services, the Department has indicated that it may not seek location of these services on HHI, but rather require a contribution to upgrading existing facilities and services. This does not trigger a change in wording however as this eventuality was envisaged in the original drafting.	Condition 1 (a) Prior to the commencement of use of stage 1 of the development, the developer must enter into a social infrastructure agreement with the state to: (i) provide land within the ~~HHID~~ project for fire and rescue and ambulance infrastructure (ii) provide land within the ~~HHID~~ project for police infrastructure (including station, holding cells/watch house, residential accommodation and other necessary facilities (e.g. storage) (iii) construct fire and rescue and ambulance infrastructure (iv) construct police infrastructure (v) undertake a combination of land dedication and construction works pursuant to points (i)-(iv) above, or (vi) provide assistance, either financially or by other agreed means, to improve the current facilities responsible for ambulance and fire brigade servicing the proposed development area, or (vii) be in accordance with any other agreement reached between the developer and the relevant state authority on behalf of the state to discharge this condition, prior to the commencement of the use. (b) Any construction of fire and rescue and ambulance infrastructure, or agreement to allow the construction of fire and rescue, ambulance and police infrastructure must be by agreement with the relevant state authority to ensure compliance with contemporary operational standards for the construction of such facilities. (c) The proponent/developer must not market or advertise any agreement with the state about potential new, or upgrading of, ambulance, fire brigade or police services as part of the ~~HHID~~ project. The Chief Executive of the Department of Police, Fire and Emergency Services ~~DCS~~ is the entity with jurisdiction for this

Condition	Requested or Required Changes	Suggested Rewording
The Chief Executive of the DCS is the entity with jurisdiction for this condition.		condition.
Condition 2 Before commencing any construction works, the proponent must consult with the QPS, DCS and other emergency services agencies to develop a risk management plan and emergency response plan, for all stages of the project. The Chief Executive of the DCS is the entity with jurisdiction for this condition.		Condition 2 Before commencing any construction works, the proponent must consult with the QPS, Department of Police, Fire and Emergency Services ~~DCS~~ and other emergency services agencies to develop a risk management plan and emergency response plan, for all stages of the project. The Chief Executive of the Department of Police, Fire and Emergency Services ~~DCS~~ is the entity with jurisdiction for this condition.
Condition 3 Construction works that require the removal, destruction or damage of marine plants as defined under the Fisheries Act 1994 must not be undertaken without a development permit for operational works. The Chief Executive of DEEDI is the entity with jurisdiction for this condition.	Condition has been reworded to reflect DAF as being the entity responsible for the enforcement of the operational works approval.	Condition 3 Construction works that require the removal, destruction or damage of marine plants as defined under the *Fisheries Act 1994* must not be undertaken without a development permit for operational works issued under the *Sustainable Planning Act 2009.* The Chief Executive of ~~DEEDI~~ DILGP is the entity with jurisdiction for this condition. DAF is the entity responsible for enforcement of any development permit for operational work that is the removal, destruction or damage of marine plants.
Condition 4 (a) Bridge construction works (such as bridge piles) located below HAT must not be undertaken without a development permit for operational works (constructing a waterway barrier). (b) Construction works for the bridge approach road (and any other crossings of defined waterways under the Fisheries Act 1994) must not be undertaken without a development permit for operational works. The Chief Executive of DEEDI is the entity with jurisdiction for this condition.		Condition 4 ~~(a) Bridge construction works (such as bridge piles) located below HAT must not be undertaken without a development permit for operational works (constructing a waterway barrier).~~ ~~(b) Construction works for the bridge approach road (and any other crossings of defined waterways under the *Fisheries Act 1994*) must not be undertaken without a development permit for operational works.~~ Constructing or raising of waterway barrier works must not be undertaken without a development permit for operational works. The Chief Executive of ~~DEEDI~~ DILGP is the entity with jurisdiction for this condition. DAF is the entity responsible for enforcement of any development permit for operational work that is the construction or raising of waterway barrier works.

Condition	Requested or Required Changes	Suggested Rewording
Condition 5 The proponent must design all waterway crossings and works within waterways in accordance with the Fisheries Queensland guideline FHG 001 Fish Passage in Streams, Fisheries Guidelines for Design of Stream Crossings (1998) and ensure construction is undertaken with full regard for fish passage requirements. The Chief Executive of DEEDI is the entity with jurisdiction for this condition.	The FHG 001 Fish Passage in Streams, Fisheries Guidelines for Design of Stream Crossings guideline is currently under review. It is recommended that the wording of the condition be amended to reference the guideline applicable at the time of lodgement of the application.	Condition 5 The proponent must design and construct all waterway crossings and works within waterways in accordance with the Fisheries Queensland guideline FHG 001 Fish Passage in Streams, Fisheries Guidelines for Design of Stream Crossings (1998) or other equivalent guideline in force at the time of lodgement of the application and ensure construction is undertaken with full regard for fish passage requirements. The Chief Executive of DILGP ~~DEEDI~~ is the entity with jurisdiction for this condition. DAF is the entity responsible for enforcement of any development permit for operational work for the construction or raising of waterway barrier works.
Condition 6 An application for a development permit for operational works that require the removal, destruction or damage of marine plants and/or the disturbance of tidal fish habitats must be accompanied by an offset proposal that complies with relevant policies at the time of assessment (e.g. Queensland Fisheries operational policy FHMOP005—Mitigation and compensation for activities and works causing marine fish habitat loss (2002)). The Chief Executive of DEEDI is the entity with jurisdiction for this condition	The current version of the operational policy is FHMOP005.2. It is recommended that the wording of the condition be amended to delete the reference to the policy due to policy changes that may occur in the future. This does not impact on the intent of the condition. Reference to the *Environmental Offsets Act 2014* and regulation has been included.	Condition 6 An application for a development permit for operational works that require the removal, destruction or damage of marine plants resulting in a significant residual impact to a matter of State environmental significance will need to be offset in accordance with the *Environmental Offsets Act 2014* and regulation. ~~and/or the disturbance of tidal fish habitats must be accompanied by an offset proposal that complies with relevant policies at the time of assessment (e.g. Queensland Fisheries operational policy FHMOP005—Mitigation and compensation for activities and works causing marine fish habitat loss (2002)).~~ The Chief Executives of DILGP and DAF ~~DEEDI~~ is the entity with jurisdiction for this condition
Condition 7 *The following condition, relating to ERA 64—water treatment (by desalination plant), only applies if a temporary desalination plant is required for the HHID and is deemed to be an ERA by DERM.* An application to construct and operate a desalination water treatment plant, must include the following information provided to DERM and GRC for review: (a) an independent expert report demonstrating that no material or serious environmental harm or nuisance to the receiving environment and sensitive places will	The GRC has informed the proponent that it no longer proposes to build a water supply pipeline from the current GAWB system to the southern regions of the Council area. Hence a permanent desalination plant is proposed, with the same design, operational method and capacity as the proposed temporary plant.	Condition 7 *The following condition, relating to ERA 64—water treatment (by desalination plant), ~~only~~ applies if a ~~temporary~~ desalination plant is required for the ~~HHID~~ Project and is deemed to be an ERA by DEHP ~~DERM~~.* An application to construct and operate a desalination water treatment plant, must include the following information provided to ~~DERM~~ DEHP and GRC for review: (a) an independent expert report demonstrating that no material or serious environmental harm or nuisance to the receiving environment and sensitive places will result

Condition	Requested or Required Changes	Suggested Rewording
result from the construction and operation of the facility (b) details of the specific location of the proposed works and associated infrastructure with an emphasis placed on identifying sensitive environmental receptors (c) details of the proposed brine evaporation pond locations, designs and construction standard, and brine management system (d) a management framework that commits to the practices and principles to be applied to ensure that environmental impacts are minimised. The Chief Executive of DERM is the entity with jurisdiction for this condition.		from the construction and operation of the facility (b) details of the specific location of the proposed works and associated infrastructure with an emphasis placed on identifying sensitive environmental receptors (c) details of the proposed brine evaporation pond locations, designs and construction standard, and brine management system (d) a management framework that commits to the practices and principles to be applied to ensure that environmental impacts are minimised. The Chief Executive of ~~DERM~~ DEHP is the entity with jurisdiction for this condition.
Condition 8 To operate a waste transfer station as part of the HHID the following condition in relation to ERA 62—operating a waste transfer station applies: An application to construct and operate a waste transfer station must include the following information provided to DERM and GRC for review: (a) an independent expert report demonstrating that the construction and operation of the facility will not cause material or serious environmental harm or nuisance to the receiving environment and sensitive places (b) details of the specific location of the proposed works and associated infrastructure with an emphasis on identifying sensitive environmental receptors (c) a management framework that commits to the practices and principles to be applied to minimise environmental impacts. The Chief Executive of DERM is the entity with jurisdiction for this condition.	This condition can be deleted as it is no longer proposed to have a waste transfer station; instead trucks will be provided to transfer solid waste and recyclables from households and businesses on the island and transport it directly to the GRC solid waste landfill at Benaraby.	~~Condition 8~~ ~~To operate a waste transfer station as part of the HHID the project the following condition in relation to ERA 62—operating a waste transfer station applies:~~ ~~An application to construct and operate a waste transfer station must include the following information provided to DERM DEHP and GRC for review:~~ ~~(a) an independent expert report demonstrating that the construction and operation of the facility will not cause material or serious environmental harm or nuisance to the receiving environment and sensitive places~~ ~~(b) details of the specific location of the proposed works and associated infrastructure with an emphasis on identifying sensitive environmental receptors~~ ~~(c) a management framework that commits to the practices and principles to be applied to minimise environmental impacts.~~ ~~The Chief Executive of DERM DEHP is the entity with jurisdiction for this condition.~~
Condition 9 To operate a sewerage system as part of the HHID the following condition in relation to ERA 63—sewage treatment		Condition 9 To operate a sewerage system as part of the ~~HHID~~ project the following condition in relation to ERA 63—sewage treatment

Condition	Requested or Required Changes	Suggested Rewording
applies: (a) All sewage generated by the HHID must be directed to and treated at a central sewage treatment plant. (b) As part of an development application to construct and operate a sewage treatment works, the proponent must submit to GRC the following: (i) an independent expert report demonstrating that the construction and operation of the facility will not cause material or serious environmental harm or nuisance to the receiving environment and sensitive places (ii) details of the specific location of the proposed works and associated infrastructure (including pump stations and wet weather and/or emergency storage facilities), with an emphasis on identifying sensitive environmental receptors (iii) details of the proposed irrigation area (including location, size and irrigation method) and demonstration that the application of treated effluent to the proposed irrigation area will be sustainable. The report must, as a minimum, consider and present the following: (A) the characteristics of any groundwater aquifer underlying the site and the soil and vegetation types in the proposed irrigation area (B) the results of a detailed water balance study (including details of the maximum number of equivalent persons contributing to the treatment works) (C) the results of site-specific modelling, simulating the impact of the proposed and ongoing irrigation release. The modelling should be conducted using the Model for Effluent Disposal by Land Irrigation (MEDLI) or another model acceptable to DERM (D) a management framework that commits to the practices and principles to be applied		applies: (a) All sewage generated by the ~~HHID~~ project must be directed to and treated at a central sewage treatment plant. (b) As part of an development application to construct and operate a sewage treatment works, the proponent must submit to GRC the following: (i) an independent expert report demonstrating that the construction and operation of the facility will not cause material or serious environmental harm or nuisance to the receiving environment and sensitive places (ii) details of the specific location of the proposed works and associated infrastructure (including pump stations and wet weather and/or emergency storage facilities), with an emphasis on identifying sensitive environmental receptors (iii) details of the proposed irrigation area (including location, size and irrigation method) and demonstration that the application of treated effluent to the proposed irrigation area will be sustainable. The report must, as a minimum, consider and present the following: (A) the characteristics of any groundwater aquifer underlying the site and the soil and vegetation types in the proposed irrigation area (B) the results of a detailed water balance study (including details of the maximum number of equivalent persons contributing to the treatment works) (C) the results of site-specific modelling, simulating the impact of the proposed and ongoing irrigation release. The modelling should be conducted using the Model for Effluent Disposal by Land Irrigation (MEDLI) or another model acceptable to ~~DERM~~ DEHP (D) a management framework that commits to the practices and principles to be applied to ensure

<table>
<tr><th>Condition</th><th>Requested or Required Changes</th><th>Suggested Rewording</th></tr>
<tr><td>to ensure that irrigation application rates are managed to minimise environmental impacts.
(c) The sewage treatment works must be designed, constructed and operated consistent with an advanced wastewater treatment plant, with treatment quality achieving the following quality characteristics.
<table><tr><th>Quality characteristics</th><th>Minimum</th><th>Maximum</th></tr><tr><td>BOD5</td><td></td><td>5 mg/L</td></tr><tr><td>Total suspended solids</td><td></td><td>5 mg/L</td></tr><tr><td>Electrical conductivity</td><td></td><td>16000 µS/cm</td></tr><tr><td>Total nitrogen</td><td></td><td>4 mg/L</td></tr><tr><td>Ammonia as N</td><td></td><td>0.5 mg/L</td></tr><tr><td>Total phosphorus</td><td></td><td>0.2 mg/L</td></tr><tr><td>pH</td><td>6.5 pH units</td><td>8.5 pH units</td></tr><tr><td>E. coli</td><td></td><td>< 1 cfu in 500ml sample</td></tr><tr><td>Faecal coliform</td><td></td><td>< 1 cfu in 500ml sample</td></tr><tr><td>Turbidity</td><td></td><td>2 NTU</td></tr><tr><td>Colour</td><td></td><td><2 TCU</td></tr></table>
The Chief Executive of DERM is the entity with jurisdiction for this condition.</td><td></td><td>that irrigation application rates are managed to minimise environmental impacts.
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The Chief Executive of ~~DERM~~ DEHP is the entity with jurisdiction for this condition.</td></tr>
<tr><td>Condition 10
(a) Prior to making an application for a development permit for material change of use for all or part of the development subject to the preliminary approval, the applicant/landowner must:
(i) submit a road impact assessment (RIA) to TMR which:
(A) identifies the cumulative impacts of all</td><td></td><td>Condition 10
(a) Prior to making an application for a development permit for material change of use for all or part of the development subject to the preliminary approval, the applicant/landowner must:
(i) submit a road impact assessment (RIA) to TMR which:
(A) identifies the cumulative impacts of all stages</td></tr>
</table>

Condition	Requested or Required Changes	Suggested Rewording
stages of development on the intersection of the Bruce Highway (Gin Gin–Benaraby)/Turkey Beach Road and other approved developments in the vicinity that also gain access from the state-controlled road via Turkey Beach Road (B) is carried out in accordance with the TMR's Guidelines for Assessment of Road Impacts of Development (GARID) (2006 or as amended). (ii) submit a road use management plan to TMR which details: (A) traffic volumes (B) proposed transport routes (C) estimates of any required infrastructure maintenance contributions or conceptual or preliminary plans of necessary upgrades to mitigate road impacts with a design horizon of 10 years after opening of the final stage of development (D) any requirements regarding access/connection to public roads, transport scheduling, dust control and road safety. The Chief Executive of TMR is the entity with jurisdiction for this condition.		of development on the intersection of the Bruce Highway (Gin Gin–Benaraby)/Turkey Beach Road and other approved developments in the vicinity that also gain access from the state-controlled road via Turkey Beach Road (B) is carried out in accordance with the TMR's Guidelines for Assessment of Road Impacts of Development (GARID) (2006 or as amended). (ii) submit a road use management plan to TMR which details: (A) traffic volumes (B) proposed transport routes (C) estimates of any required infrastructure maintenance contributions or conceptual or preliminary plans of necessary upgrades to mitigate road impacts with a design horizon of 10 years after opening of the final stage of development (D) any requirements regarding access/connection to public roads, transport scheduling, dust control and road safety. The Chief Executive of TMR is the entity with jurisdiction for this condition.
Condition 11 (a) The proponent must enter into a road infrastructure agreement with TMR for the upgrading of the Bruce Highway (Gin Gin–Benaraby)/Turkey Beach Road intersection and any necessary road maintenance and upgrades identified in the finalised RMP to ameliorate any adverse impacts of road use by the project on the assets of TMR. The infrastructure agreement must be submitted to GRC to inform GRC's decision on any MCU over the proposed development land. All works within the Bruce Highway road reserve require prior approval from TMR and must be designed and		Condition 11 (a) The proponent must enter into a road infrastructure agreement with TMR for the upgrading of the Bruce Highway (Gin Gin–Benaraby)/Turkey Beach Road intersection and any necessary road maintenance and upgrades identified in the finalised RMP to ameliorate any adverse impacts of road use by the project on the assets of TMR. The infrastructure agreement must be submitted to GRC to inform GRC's decision on any MCU over the proposed development land. All works within the Bruce Highway road reserve require prior approval from TMR and must be designed and constructed by TMR pre-

Condition	Requested or Required Changes	Suggested Rewording
constructed by TMR pre-qualified consultants and contractors, and meet TMR standards and specifications. (b) The Chief Executive of GRC must be consulted regarding any RMP which seeks to address intersections and road reserves involving a council-controlled road (e.g. Bruce Highway/Turkey Beach Road intersection). (c) Upon approval by the TMR of the revised RIA and RMP and prior to the signing and dating of the Plan of Survey for each stage of the development or before commencing use for MCU applications, the applicant/landowner must undertake the works or pay the contributions identified in the report. (d) If an infrastructure agreement between the proponent and TMR is not concluded within six months of the submission of the RMP, either party may refer the matter to the Coordinator-General. The Chief Executive of TMR is the entity with jurisdiction for this condition.		qualified consultants and contractors, and meet TMR standards and specifications. (b) The Chief Executive of GRC must be consulted regarding any RMP which seeks to address intersections and road reserves involving a council-controlled road (e.g. Bruce Highway/Turkey Beach Road intersection). (c) Upon approval by the TMR of the revised RIA and RMP and prior to the signing and dating of the Plan of Survey for each stage of the development or before commencing use for MCU applications, the applicant/landowner must undertake the works or pay the contributions identified in the report. (d) If an infrastructure agreement between the proponent and TMR is not concluded within six months of the submission of the RMP, either party may refer the matter to the Coordinator-General. The Chief Executive of TMR is the entity with jurisdiction for this condition.
Condition 12 (a) Within 90 days of appointing a construction contractor for the project, and before commencing any major construction works on the project, the proponent must prepare a TMP for any construction or maintenance of road infrastructure. (b) The proponent must provide the TMP for review by TMR, GRC and any other relevant stakeholders and take account of the reviews. (c) The TMP must incorporate a provision that, before commencing any program of oversize transport movements that may be required for the construction of the project, the proponent will consult with TMR, GRC and any other relevant stakeholders. (d) The proponent must implement the TMP during construction and commissioning of the project and construction or maintenance of road infrastructure. The Chief Executive of TMR is the entity with jurisdiction		Condition 12 (a) Within 90 days of appointing a construction contractor for the project, and before commencing any major construction works on the project, the proponent must prepare a TMP for any construction or maintenance of road infrastructure. (b) The proponent must provide the TMP for review by TMR, GRC and any other relevant stakeholders and take account of the reviews. (c) The TMP must incorporate a provision that, before commencing any program of oversize transport movements that may be required for the construction of the project, the proponent will consult with TMR, GRC and any other relevant stakeholders. (d) The proponent must implement the TMP during construction and commissioning of the project and construction or maintenance of road infrastructure. The Chief Executive of TMR is the entity with jurisdiction for

Condition	Requested or Required Changes	Suggested Rewording
for this condition.		this condition.
Condition 13 Any works in the state-controlled road corridor must not be undertaken without a development permit in accordance with the Transport Infrastructure Act 1994 (Qld) and associated regulations. The Chief Executive of TMR is the entity with jurisdiction for this condition.		Condition 13 Any works in the state-controlled road corridor must not be undertaken without a development permit in accordance with the *Transport Infrastructure Act 1994* (Qld) and associated regulations. The Chief Executive of TMR is the entity with jurisdiction for this condition.
Condition 14 (a) The proponent must implement and manage a wildlife habitat management plan (WHMP) which incorporates beach and foreshore management. The WHMP must be provided to DERM for approval prior to commencing construction. (b) The WHMP must: (i) define the impact of the development on the species populations (ii) provide for the survival of the species in the wild (iii) achieve a net conservation benefit for the species (iv) consider and address changes to species composition that may potentially occur as a result of the development. (c) The WHMP must include: (i) wildlife habitat and movement corridors in the design, construction and operation of the project. This must include: (A) designing and managing the development to retain and enhance remaining vegetated areas and maximise fauna movement corridors (as discussed in this report) (B) designing and constructing a major fauna crossing (e.g. underpass culvert) along the sections of road that pass through vegetated areas to prevent fauna entering the roadway	Note that the figure referred to (Figure 4.1 of the CoG's Report) is outdated due to the change in boundary of the project compared to HHID. However, the two locations identified on Figure 4.1 remain the priority locations for connectivity corridors, and hence the figure does not need to be updated.	Condition 14 (a) The proponent must implement and manage a wildlife habitat management plan (WHMP) which incorporates beach and foreshore management. The WHMP must be provided to ~~DERM~~ DEHP for approval prior to commencing construction. (b) The WHMP must: (i) define the impact of the development on the species populations (ii) provide for the survival of the species in the wild (iii) achieve a net conservation benefit for the species (iv) consider and address changes to species composition that may potentially occur as a result of the development. (c) The WHMP must include: (i) wildlife habitat and movement corridors in the design, construction and operation of the project. This must include: (A) designing and managing the development to retain and enhance remaining vegetated areas and maximise fauna movement corridors (as discussed in this report) (B) designing and constructing a major fauna crossing (e.g. underpass culvert) along the sections of road that pass through vegetated areas to prevent fauna entering the roadway (C) implementing a roadside wildlife management plan to further protect wildlife in the vicinity

Condition	Requested or Required Changes	Suggested Rewording
(C) implementing a roadside wildlife management plan to further protect wildlife in the vicinity of the access road (D) installing traffic calming devices in strategic locations such as the connectivity corridors noted in Figure 4.1 of this report (E) installing fauna exclusion fencing in appropriate locations, if necessary, as agreed with DERM (F) considering the fauna sensitive design standards included in the Fauna Sensitive Road Design Manual—Volume 2: Preferred Practices (G) developing, implementing and funding activities to specifically eradicate fox, wild dog and feral cat numbers in the buffer zone between the HHID and the rest of the island and on land surrounding the bridge (e.g. trapping program) (H) prohibiting domestic cats within the HHID area and dogs from environmentally sensitive parts of the island such as beaches and protected areas (I) developing and implementing a beach and foreshore management plan (including a community education/awareness program) to manage the sensitive areas particularly for turtles and shorebirds (J) establishing vegetated buffers of at least 100 metres in width around the entire perimeter of the HHID footprint (80 metres at the headland) to protect sensitive environments (ii) a management plan for the black-breasted button quail (Turnix melanogaster) that are likely to exist in littoral vineforest RE on the island (iii) a beach and foreshore management plan		of the access road (D) installing traffic calming devices in strategic locations such as the connectivity corridors noted in Figure 4.1 of this report (E) installing fauna exclusion fencing in appropriate locations, if necessary, as agreed with ~~DERM~~ DEHP (F) considering the fauna sensitive design standards included in the Fauna Sensitive Road Design Manual—Volume 2: Preferred Practices (G) developing, implementing and funding activities to specifically eradicate fox, wild dog and feral cat numbers in the buffer zone between the ~~HHID~~ project and the rest of the island and on land surrounding the bridge (e.g. trapping program) (H) prohibiting domestic cats within the ~~HHID~~ project area and dogs from environmentally sensitive parts of the island such as beaches and protected areas (I) developing and implementing a beach and foreshore management plan (including a community education/awareness program) to manage the sensitive areas particularly for turtles and shorebirds (J) establishing vegetated buffers of at least 100 metres in width around the entire perimeter of the ~~HHID~~ project footprint (80 metres at the headland) to protect sensitive environments (ii) a management plan for the black-breasted button quail (*Turnix melanogaster*) that are likely to exist in littoral vineforest RE on the island (iii) a beach and foreshore management plan (including a community education/awareness program) in consultation with ~~DERM~~ DEHP to manage the sensitive areas particularly for turtles and shorebirds (iv) an artificial lighting management plan that will include a range of methods to minimise impacts

Condition	Requested or Required Changes	Suggested Rewording
(including a community education/awareness program) in consultation with DERM to manage the sensitive areas particularly for turtles and shorebirds (iv) an artificial lighting management plan that will include a range of methods to minimise impacts such as: (A) turning off light sources (B) wattage reduction (C) repositioning lights behind structures (D) shielding (E) redirecting light sources (F) lowering lights and recessing lights so the light does not reach the beach (v) measures in a community management statement to regulate domestic animals in residential precincts to avoid disturbing native fauna in open space areas (vi) measures to ensure all site rehabilitation work is undertaken and/or managed by appropriately qualified personnel. The Chief Executive of DERM is the entity with jurisdiction for this condition.		such as: (A) turning off light sources (B) wattage reduction (C) repositioning lights behind structures (D) shielding (E) redirecting light sources (F) lowering lights and recessing lights so the light does not reach the beach (v) measures in a community management statement to regulate domestic animals in residential precincts to avoid disturbing native fauna in open space areas (vi) measures to ensure all site rehabilitation work is undertaken and/or managed by appropriately qualified personnel. The Chief Executive of ~~DERM~~ DEHP is the entity with jurisdiction for this condition.
Condition 15 (a) Before clearing any REs on the project site, the proponent must: (i) complete and submit detailed mapping of REs on and around the project site in consultation with DERM (ii) obtain a development permit for operational works for the clearing of native vegetation. (b) An application for a development permit for operational works for the clearing of native vegetation must include an offset for endangered REs in accordance with DERM's Policy for Vegetation Management Offsets and the Regional Vegetation	The offset package for HHID that was agreed with the CoG and DERM in 2011 is addressed Section 4.5.4 - Mitigation measures—terrestrial ecology) and Appendix 4 of the CoG's Report. These proposed offsets met the Department of Environment and Resource Management, *Policy for Vegetation Management Offsets*, version 2.4 (Department of Environment and Resource Management, Brisbane, 2009). In relation to offsets, the current framework incorporates the: • *Environmental Offsets Act 2014* • *Environmental Offsets Regulation 2014*;	Condition 15 (a) Before clearing any REs on the project site, the proponent must: (i) complete and submit detailed mapping of REs on and around the project site in consultation with ~~DERM~~ DEHP (ii) obtain a development permit for operational works for the clearing of native vegetation. (b) An application for a development permit for operational works for the clearing of native vegetation must include an offset for ~~endangered~~ REs in accordance with the Offsets Policy Queensland Environmental 2014 Version 1.1 (QEOP) ~~DERM Policy for Vegetation Management Offsets~~

Condition	Requested or Required Changes	Suggested Rewording
Management Code for Southeast Queensland Bioregion (c) An offset must be provided for all areas of REs other than endangered RE that are cleared as part of the project to the satisfaction of the Coordinator-General. (d) The offset(s) must meet criteria 4 and 5 of the Policy for Vegetation Management Offsets and must be secured prior to any clearing of native vegetation. (e) No clearing is to occur outside the areas designated for urban purposes by this preliminary approval. (f) Clearing in areas A and B (Figure 4.1 of this report) must be less than 20 metres in width and separated from other remnant or regrowth clearing by at least 20 metres. (g) Clearing in areas A and B is only permitted for the construction of an access road (including bike path) and reasonably associated service infrastructure such as power, water and telecommunications. Note: For the purposes of this preliminary approval for material change of use, the chief executive administering the Vegetation Management Act 1999 is not a concurrence agency under the Sustainable Planning Act 2009. The Chief Executive of DERM is the entity with jurisdiction for this condition.	and • Queensland Environmental Offsets Policy 2014 Version 1.1 The DERM Policy for Vegetation Management Offsets and Regional Vegetation Management Code for Southeast Queensland Bioregion are no longer current. Conditions have been reworded to ensure consistency with the QEOP. In particular (c) has been deleted as it is no longer required due to the proposed amendment to (b) to include all REs. The proponent is committed to meeting the offset requirements of the current offsets policy	~~and the Regional Vegetation Management Code for Southeast Queensland Bioregion~~ (c) ~~An offset must be provided for all areas of REs other than endangered RE that are cleared as part of the project to the satisfaction of the Coordinator-General.~~ (d) A delivery arrangement must be agreed in accordance with Section 2.4 of the QEOP. ~~The offset(s) must meet criteria 4 and 5 of the Policy for Vegetation Management Offsets and must be secured prior to any clearing of native vegetation.~~ (e) No clearing is to occur outside the areas designated for urban purposes by this preliminary approval. (f) Clearing in areas A and B (Figure 4.1 of this report) must be less than 20 metres in width and separated from other remnant or regrowth clearing by at least 20 metres. (g) Clearing in areas A and B is only permitted for the construction of an access road (including bike path) and reasonably associated service infrastructure such as power, water and telecommunications. Note: For the purposes of this preliminary approval for material change of use, the chief executive administering the *Vegetation Management Act 1999* is not a concurrence agency under the *Sustainable Planning Act 2009*. The Chief Executive of ~~DERM~~ DEHP is the entity with jurisdiction for this condition.
Condition 16 (a) Prior to an application for a reconfiguration of a lot within the lease area the proponent must complete plant surveys in consultation with the Wildlife Branch of DERM. (b) Detailed information must be provided to DERM in relation to: (i) the extent of long-term loss of native plants (ii) rehabilitating disturbed areas (iii) the maintenance of threatened species' populations. (c) The proponent must consider options for avoiding or	Hummock Hill Island is not mapped as having any high risk areas which trigger the need to undertake detailed vegetation assessments or approval requirements. However, the proponent is committed to conducting pre-clearing surveys and, if EVNT flora species are identified, a permit to clear protected plants will be required. Under Section 88 of the *Nature Conservation Act 1992* and Section 332 *Nature Conservation (Wildlife Management) Regulation 2006* a Species Management Program is required for 'taking' an animal or 'tampering' with an	Condition 16 (a) Prior to an application for a reconfiguration of a lot within the lease area the proponent must complete plant surveys in consultation with ~~the Wildlife Branch of DERM~~ DEHP. (b) Detailed information must be provided to ~~DERM~~ DEHP in relation to: (i) the extent of long-term loss of native plants (ii) rehabilitating disturbed areas (iii) the maintenance of threatened species' populations. (c) The proponent must consider options for avoiding or

Condition	Requested or Required Changes	Suggested Rewording
minimising impacts to Schedule 6 plants (i.e. native plants) listed in the *Nature Conservation (Wildlife) Regulation 2006* and discuss specific requirements with DERM, before commencing clearing. (d) The proponent must prepare a flora rehabilitation plan and provide it to DERM for consideration. (e) The proponent must obtain a permit under the *Nature Conservation Act 1992 (Nature Conservation (Administration) Regulation 2006)* if there is a need to remove/clear protected plants (i.e. native plants). The application for a clearing permit must list all plant species to be cleared in accordance with the relevant schedules under the Nature Conservation (Wildlife) Regulation 2006. (f) The proponent must obtain a wildlife rehabilitation permit under the Nature Conservation (Wildlife Management) Regulation 2006 and Nature Conservation (Administration) Regulation 2006 if protected animals need to be rescued, particularly during the clearing and construction stages of development. The Chief Executive of DERM is the entity with jurisdiction for this condition.	animal breeding place. Clearing associated with the project is likely to impact on breeding places for least concern and/or EVNT species. As such, a Species Management Program for tampering with animal breeding places is anticipated as being required. Under the *Conservation (Wildlife Management) Regulation 2006* tampering with an animal breeding place means to damage, destroy, mark, move or dig up the breeding place.	minimising impacts to protected plants ~~Schedule 6 plants (i.e. native plants)~~ listed in the *Nature Conservation (Wildlife) Regulation 2006* and discuss specific requirements with ~~DERM~~ DEHP, before commencing clearing. (d) The proponent must prepare a flora rehabilitation plan and provide it to ~~DERM~~ DEHP for consideration. (e) The proponent must obtain a permit under the *Nature Conservation Act 1992* and *(Nature Conservation (Administration) Regulation 2006)* if there is a need to remove/clear protected plants ~~(i.e. native plants)~~. The application for a clearing permit must list all plant species to be cleared in accordance with the relevant schedules under the *Nature Conservation (Wildlife) Regulation 2006*. (f) The proponent must obtain a wildlife rehabilitation permit under the Nature Conservation (*Wildlife Management) Regulation 2006* and *Nature Conservation (Administration) Regulation 2006* if protected animals need to be rescued, particularly during the clearing and construction stages of development. The Chief Executive of ~~DERM~~ DEHP is the entity with jurisdiction for this condition.
Condition 17 Where there will be unavoidable impact to near threatened, rare, vulnerable or endangered flora or fauna requiring a permit under the Nature Conservation Act 1992, specific management and mitigation measures, including offsets for the impact to the species and/or its habitat consistent with the Queensland Government Environmental Offsets Policy, must be included in the WHMP mentioned in Condition 14. The Chief Executive of DERM is the entity with jurisdiction for this condition.		Condition 17 Where there will be unavoidable impact to near threatened, rare, vulnerable or endangered flora or fauna requiring a permit under the Nature Conservation Act 1992, specific management and mitigation measures, including offsets for the impact to the species and/or its habitat consistent with the Queensland ~~Government~~ Environmental Offsets Policy, must be included in the WHMP mentioned in Condition 14. The Chief Executive of ~~DERM~~ DEHP is the entity with jurisdiction for this condition.
Condition 18 (a) As part of the artificial lighting management plan mentioned in Condition 14, (c)(iv) the applicant must provide details of how nesting turtles on HHI will be		Condition 18 (a) As part of the artificial lighting management plan mentioned in Condition 14, (c)(iv) the applicant must provide details of how nesting turtles on HHI will be

Condition	Requested or Required Changes	Suggested Rewording
protected from the impacts of lighting through practical design, location and management commitments, including a detailed analysis of the potential visibility of all artificial lighting, including reflected light, at turtle-sensitive locations. (b) The artificial lighting management plan must specify the design, location and management of all lighting used in the development to ensure that no direct or reflected artificial lighting would be visible at turtle sensitive areas after 7.30 pm during the nesting and hatching season, which extends from 1 October to 31 March, except as required for emergencies or marine safety. (c) Where, for legal or safety reasons, lighting cannot be excluded or shielded completely from turtle-sensitive areas during the nesting and hatching period, the proponent must make practical design and management commitments to ensure that the lighting will have no significant effect on turtle nesting and hatchlings. (d) Commitments to the design, location, and management of all lighting must be made legally binding on all future owners and/or lessees. The Chief Executive of DERM is the entity with jurisdiction for this condition.		protected from the impacts of lighting through practical design, location and management commitments, including a detailed analysis of the potential visibility of all artificial lighting, including reflected light, at turtle-sensitive locations. (b) The artificial lighting management plan must specify the design, location and management of all lighting used in the development to ensure that no direct or reflected artificial lighting would be visible at turtle sensitive areas after 7.30 pm during the nesting and hatching season, which extends from 1 October to 31 March, except as required for emergencies or marine safety. (c) Where, for legal or safety reasons, lighting cannot be excluded or shielded completely from turtle-sensitive areas during the nesting and hatching period, the proponent must make practical design and management commitments to ensure that the lighting will have no significant effect on turtle nesting and hatchlings. (d) Commitments to the design, location, and management of all lighting must be made legally binding on all future owners and/or lessees. The Chief Executive of ~~DERM~~ DEHP is the entity with jurisdiction for this condition.
Condition 19 Any beach access and other infrastructure required to be placed within the wetland and foreshore dunal systems (excluding the bridge and public boat ramps) must avoid disturbance to marine plants and fish habitats. Where avoidance is not possible, the path and area of least disturbance is to be taken. The Chief Executive of DEEDI is the entity with jurisdiction for this condition.		Condition 19 Any beach access and other infrastructure required to be placed within the wetland and foreshore dunal systems (excluding the bridge and public boat ramps) must avoid disturbance to marine plants and fish habitats. Where avoidance is not possible, the path and area of least disturbance is to be taken. The Chief Executive of DAF~~DEEDI~~ is the entity with jurisdiction for this condition.
Condition 20 (a) The proponent must develop and implement a marine ecological monitoring program (MEMP) to map and monitor key marine communities in the area including		Condition 20 (a) The proponent must develop and implement a marine ecological monitoring program (MEMP) to map and monitor key marine communities in the area including

Condition	Requested or Required Changes	Suggested Rewording
coral communities, seagrass beds and mangrove communities. (b) The proponent must consult with DEEDI and DERM to develop the monitoring methodology including sites, frequencies, specific techniques, trigger points and subsequent actions. (c) The MEMP must include baseline monitoring including at least two monitoring events (winter and summer) over at least 12 months and an ongoing monitoring campaign every five years. (d) All marine ecological monitoring results must be provided to DEEDI and DERM. The Chief Executive of DEEDI is the entity with jurisdiction for this condition.		coral communities, seagrass beds and mangrove communities. (b) The proponent must consult with ~~DEEDI~~DAF and ~~DERM~~ DEHP to develop the monitoring methodology including sites, frequencies, specific techniques, trigger points and subsequent actions. (c) The MEMP must include baseline monitoring including at least two monitoring events (winter and summer) over at least 12 months and an ongoing monitoring campaign every five years. (d) All marine ecological monitoring results must be provided to ~~DEEDI~~ DAF and ~~DERM~~ DEHP. The Chief Executive of ~~DEEDI~~ DAF is the entity with jurisdiction for this condition.
Condition 21 (a) Prior to commencement of construction, the applicant must provide to DERM a site-specific acid sulfate soil management plan developed and to be implemented in accordance with: (i) State Planning Policy 2/02: Planning and Managing Development Involving Acid Sulfate Soil (ii) the State Planning Policy 2/02 Guideline: Acid Sulfate Soils,74 and with reference to the Guidelines for Sampling and Analysis of Lowland Acid Sulfate Soils in Queensland (iii) the Queensland Acid Sulfate Soil Technical Manual: Soil Management Guidelines (iv) Instructions for the Treatment and Management of Acid Sulfate Soils or any updates of them as they become available. (b) The acid sulfate soil management plan must be developed by consultants experienced in large scale development projects containing acid sulfate soils, in consultation with DERM, and include a commitment to be on site during excavation and treatment activities. The Chief Executive of DERM is the entity with jurisdiction for this condition.	State Planning Policy 2/02 is no longer current and the reference to this document along with the guideline should be removed from this condition. In any case, the former State Planning Policy 2/02 did not contain any specific requirements in relation to ASS management. The information contained in the State Planning Policy 2/02 Guideline: Acid Sulfate Soils is duplicated in the Soil Management Guidelines. The proponent requests that the ASS MP be prepared in a staged fashion, that is, as each precinct is developed, rather than a single ASSMP for the entire development.	Condition 21 (a) Prior to commencement of construction in each precinct, the applicant must provide to DEHP~~DERM~~ a site-specific acid sulfate soil management plan developed and to be implemented in accordance with: (i) ~~State Planning Policy 2/02: Planning and Managing Development Involving Acid Sulfate Soil~~ (ii) ~~the State Planning Policy 2/02 Guideline: Acid Sulfate Soils,74 and with reference to the Guidelines for Sampling and Analysis of Lowland Acid Sulfate Soils in Queensland~~ (iii) the Queensland Acid Sulfate Soil Technical Manual: Soil Management Guidelines (iv) Instructions for the Treatment and Management of Acid Sulfate Soils or any updates of them as they become available. (b) The acid sulfate soil management plan must be developed by consultants experienced in large scale development projects containing acid sulfate soils, in consultation with ~~DERM~~DEHP, and include a commitment to be on site during excavation and treatment activities. The Chief Executive of ~~DERM~~DEHP is the entity with jurisdiction for this condition.

Condition	Requested or Required Changes	Suggested Rewording
Schedule 2		
Condition 1 (a) The development is to be generally in accordance with: (i) the master plan described in the EIS, revised in the SEIS and further amended by any requirements of these conditions of development (ii) the precinct plan dated 20 August 2010 (Refer Figure 2.3) (b) For all stages of development, the number of dwellings for permanent residential use (i.e. other than short term accommodation) must not exceed 30 per cent of the total number of constructed dwelling units within the HHID and must not exceed 790 dwellings. (c) For all stages of development, at least 15 per cent of dwellings for permanent residential use must be low cost housing, i.e. intended as accommodation for people who wish to work and live on HHI in support of the tourist industry. (d) The total area used for urban purposes must not exceed 518 hectares. (e) Development must be excluded from the littoral vineforest communities to the west of the headland and beachfront habitat to the east of the headland (as represented by RE 12.2.2 determined by detailed mapping specified in Schedule 1, Condition 15, (a) of this report, to protect the environmental value of these areas. (f) Unless otherwise stated in these conditions, the development is to be in accordance with the Miriam Vale planning scheme codes and policies applicable to the GRC. Note: 'short-term accommodation' is defined as: - premises used to provide short term accommodation for the general public which may be self contained. The use may include a	(a) Update required to the plans referred to in condition. The precinct plan included in the draft Plan of Development is dated January 2016. (b) Short-term accommodation is now defined in the Queensland Planning Provisions with this definition also included in the GRC Planning Scheme. This standard definition should be referenced in this condition. (c) The reference to low cost housing should be deleted as the definition refers to it being one and two bedroom apartments without reference to affordability. In practice this condition is requiring that 15% of the dwellings provided are one or two bedroom and does not necessarily result in the provision of more affordable housing. (d) Area to be updated (e) No change (f) This condition should reference the plan of development (that will be approved as part of the Preliminary Approval) and refer to the GRC Planning Scheme.	Condition 1 (a) The development is to be generally in accordance with: (i) the master plan described in the EIS, revised in the SEIS and further amended by any requirements of these conditions of development (ii) the precinct plan dated ~~20 August 2010~~ January 2016 ~~(Refer Figure 2.3)~~ (b) For all stages of development, the number of dwellings for permanent residential use (i.e. other than short term accommodation) must not exceed 30 per cent of the total number of constructed dwelling units within the ~~HHID~~ project and must not exceed ~~790~~770 dwellings. (c) For all stages of development, at least 15 per cent of dwellings for permanent residential use must be low cost housing, i.e. intended as accommodation for people who wish to work and live on HHI in support of the tourist industry. (d) The total area used for urban purposes must not exceed ~~518~~ 465 hectares. (e) Development must be excluded from the littoral vineforest communities to the west of the headland and beachfront habitat to the east of the headland (as represented by RE 12.2.2 determined by detailed mapping specified in Schedule 1, Condition 15, (a) of this report, to protect the environmental value of these areas. (f) Unless otherwise stated in these conditions, the development is to be in accordance with the Plan of Development and GRC Planning Scheme ~~Miriam Vale planning scheme codes and policies applicable to the GRC~~. Note: 'short-term accommodation' is defined in the Queensland Planning Provisions ~~as~~: ~~- premises used to provide short term accommodation for the general public which may be self contained. The use may include a manager's residence and office~~

Condition	Requested or Required Changes	Suggested Rewording
manager's residence and office and the provision of recreation facilities for the exclusive use of residents; and/or – premises used, or intended to be used principally, for accommodating persons away from their normal place of residence. Note: 'low cost housing' is defined as a multiple dwelling unit with one or two bedrooms. Note: 'urban purposes' are defined by the Sustainable Planning Regulation 2009.		~~and the provision of recreation facilities for the exclusive use of residents; and/or~~ ~~– premises used, or intended to be used principally, for accommodating persons away from their normal place of residence.~~ Note: 'low cost housing' is defined as a multiple dwelling unit with one or two bedrooms. Note: 'urban purposes' are defined by the *Sustainable Planning Regulation 2009*.
Condition 2 (a) The HHID must include design elements that will avoid where possible or mitigate impacts upon fauna communities by the incorporating the following: (i) vegetated corridors which permit flora and fauna dispersal across HHI particularly the maintenance of riparian corridors adjacent to ephemeral creeks. Wildlife corridor types that are to be considered for the development, to be agreed with GRC and DERM, include: (A) major linkage—several hundred metres in width and containing no buildings or major structures (B) inter-urban linkage—corridors of 100-200 metres in width through a predominantly urban matrix, but containing large areas of green space such as the golf course (C) local linkage—corridors of less than 100 metres in width through urban and non-urban matrices (ii) roads designed to include the preferred fauna sensitive design standards included in the Fauna Sensitive Road Design Manual—Volume 2: Preferred Practices (TMR June 2010) (iii) formal fauna crossing points at potential road-strike points, particularly within the proposed corridors described above		Condition 2 (a) The ~~HHID~~ project must include design elements that will avoid where possible or mitigate impacts upon fauna communities by the incorporating the following: (i) vegetated corridors which permit flora and fauna dispersal across HHI particularly the maintenance of riparian corridors adjacent to ephemeral creeks. Wildlife corridor types that are to be considered for the development, to be agreed with GRC and ~~DERM~~DEHP, include: (A) major linkage—several hundred metres in width and containing no buildings or major structures (B) inter-urban linkage—corridors of 100-200 metres in width through a predominantly urban matrix, but containing large areas of green space such as the golf course (C) local linkage—corridors of less than 100 metres in width through urban and non-urban matrices (ii) roads designed to include the preferred fauna sensitive design standards included in the Fauna Sensitive Road Design Manual—Volume 2: Preferred Practices (TMR June 2010) (iii) formal fauna crossing points at potential road-strike points, particularly within the proposed corridors described above (iv) fauna crossings at ephemeral watercourse crossings (v) tree retention across the development area to

Condition	Requested or Required Changes	Suggested Rewording
(iv) fauna crossings at ephemeral watercourse crossings (v) tree retention across the development area to increase landscape permeability for flora and fauna particularly in and around the proposed golf course (vi) a 500-metre section of road connecting the northern and southern parts of the development to include an east-west fauna movement corridor incorporating: (A) retention of a 50 to 60-metre (width) naturally vegetated area between the single lane carriage ways (B) traffic calming devices at agreed points along the road (C) wildlife signage to warn drivers (D) culverts under the roadway to accommodate movement of small fauna. (vii) 30-metre buffers to waterways (viii) construction and maintenance of fire breaks within the special lease area. (b) DERM must be consulted in relation to all aspects of this condition.		increase landscape permeability for flora and fauna particularly in and around the proposed golf course (vi) a 500-metre section of road connecting the northern and southern parts of the development to include an east-west fauna movement corridor incorporating: (A) retention of a 50 to 60-metre (width) naturally vegetated area between the single lane carriage ways (B) traffic calming devices at agreed points along the road (C) wildlife signage to warn drivers (D) culverts under the roadway to accommodate movement of small fauna. (vii) 30-metre buffers to waterways (viii) construction and maintenance of fire breaks within the special lease area. (b) ~~DERM~~DEHP must be consulted in relation to all aspects of this condition.
Condition 3 No development, other than construction of the bridge, public boat ramps, service infrastructure, pedestrian access to the beaches and life saving structures, is to occur within the erosion prone area indicated in DERM's Erosion Prone Area Plan SC 3378 (or updated version) or within the storm tide hazard area defined by the planning scheme and the State Coastal Management Plan Guideline Mitigating the Adverse Impacts of Storm Tide Inundation or subsequent amendments to the State Coastal Management Plan.	The erosion prone area mapping for Gladstone Regional Local Government Area (Plan No: GLR3A 8 July 2015) incorporates Hummock Hill Island. The state hazard mapping has now also be included within the Gladstone Regional Council planning scheme. Areas in the vicinity of the golf course as containing: • Coastal Hazard Area - erosion prone area; • Coastal Hazard Area - medium storm tide inundation area; and • Coastal Hazard Area - high storm tide inundation area.	No development, other than construction of the bridge, public boat ramps, service infrastructure, pedestrian access to the beaches and life saving structures, is to occur within the erosion prone area ~~indicated in DERM's Erosion Prone Area Plan SC 3378 (or updated version) or within the storm tide hazard area defined by the planning scheme and the State Coastal Management Plan Guideline Mitigating the Adverse Impacts of Storm Tide Inundation or subsequent amendments to the State Coastal Management Plan.~~ as determined by DEHP in accordance with the site-specific erosion study completed for Hummock Hill Island by Water Technologies Pty Ltd. Areas of the development outside this erosion prone area are permitted to be filled to ensure that they are safe from inundation during the 100 year Average Recurrence Interval storm surge.

Condition	Requested or Required Changes	Suggested Rewording
	A site specific study has been undertaken by the Proponent which has refined the erosion prone area for the site and subsequently approved by DEHP. The condition is proposed to be changed to reflect this site specific study and the changes to the erosion prone area.	
Condition 4 Sequencing of the development must: (a) provide for community facilities to be made available in conjunction with the first residential (tourism/permanent) stages (b) limit the number of permanent residential dwellings constructed in stage 2 to not exceed the numbers set out in Table 1.1 of the draft Hummock Hill Island Plan of Development (dated November 2010) (c) ensure the recreational camping ground is constructed in stage 2.	The condition requires updating to the current Plan of Development.	Condition 4 Sequencing of the development must: (a) provide for community facilities to be made available in conjunction with the first residential (tourism/permanent) stages (b) limit the number of permanent residential dwellings constructed in stage 2 to not exceed the numbers set out in Table ~~1.~~1 of the draft Hummock Hill Island Plan of Development (dated ~~November 2010~~ May 2016) (c) ensure the recreational camping ground is constructed in stage 2.
Condition 5 The proponent must develop and fund the tourist and leisure facilities according to the EIS/SEIS documentation and any requirements of these conditions of development including the following: (a) 240-room resort hotel—4 star (b) 150-room beachfront tourist hotel—3 star (c) 70-room motel (d) tourist park (e) a range of self-catered holiday properties (f) tourist retail shopping (g) restaurants and cafes (h) golf course (i) sports centre (j) tourist information centre (k) traditional owners cultural heritage interpretive centre	Reference to 3 and 4 star designations has been deleted as there is no formal definition of these, hence the reference is redundant	Condition 5 The proponent must develop and fund the tourist and leisure facilities according to the EIS/SEIS documentation and any requirements of these conditions of development including the following: (a) 240-room resort hotel~~—4 star~~ (b) 150-room beachfront tourist hotel~~—3 star~~ (c) 70-room motel (d) tourist park (e) a range of self-catered holiday properties (f) tourist retail shopping (g) restaurants and cafes (h) golf course (i) sports centre (j) tourist information centre (k) traditional owners cultural heritage interpretive centre

Condition	Requested or Required Changes	Suggested Rewording
(l) recreational camping ground.		(l) recreational camping ground.
Condition 6 (a) The proponent must enter into a community facilities agreement with GRC to ensure the delivery of the community facilities for the HHID including: (i) community centre (ii) medical centre (iii) education and research centre (iv) boat ramps (v) kindergarten (vi) public bus service (vii) cycle paths (viii) post office (ix) surf life saving club (x) recreational facilities (xi) SES facilities and activities. (b) The community facilities agreement must address all aspects, timing and funding of the development of the community facilities and must be submitted to GRC for approval prior to an application for a development permit for material change of use within the HHID.		Condition 6 (a) The proponent must enter into a community facilities agreement with GRC to ensure the delivery of the community facilities for the ~~HHID~~ project including: (i) community centre (ii) medical centre (iii) education and research centre (iv) boat ramps (v) kindergarten (vi) public bus service (vii) cycle paths (viii) post office (ix) surf life saving club (x) recreational facilities (xi) SES facilities and activities. (b) The community facilities agreement must address all aspects, timing and funding of the development of the community facilities and must be submitted to GRC for approval prior to an application for a development permit for material change of use within the ~~HHID~~ project.
Condition 7 The program for developing community facilities is to be based on the rate of developing the residential units within the development, as measured by the approval by GRC of reconfiguring of the land into development lots. An application to reconfigure a lot must not be lodged with GRC for their approval until the proponent has completed the community facilities in accordance with the approved development program.	No change	Condition 7 The program for developing community facilities is to be based on the rate of developing the residential units within the development, as measured by the approval by GRC of reconfiguring of the land into development lots. An application to reconfigure a lot must not be lodged with GRC for their approval until the proponent has completed the community facilities in accordance with the approved development program.
Condition 8 (a) All infrastructure must be provided at the cost of the proponent. Details and timing are to be agreed through an infrastructure agreement with GRC. The agreement must state that the proponent will develop	Reference to a pipeline in relation to water supply system has been removed Boat ramps has been changed to boat ramp (singular)	Condition 8 (a) All infrastructure must be provided at the cost of the proponent. Details and timing are to be agreed through an infrastructure agreement with GRC. The agreement must state that the proponent will develop the following

Condition	Requested or Required Changes	Suggested Rewording
the following physical infrastructure required for providing essential services to the HHID including: (i) water supply system (including pipeline) (ii) sewerage (iii) power (iv) telecommunications (v) stormwater drainage systems (vi) recycled water treatment and supply (vii) wastewater collection, treatment and disposal (viii) solid waste collection and disposal (ix) access road from Foreshores Road to HHI (x) bridge over Boyne Creek (xi) boat ramps (xii) internal roads, cycle ways and pedestrian paths (xiii) public parks and open space (including environmental buffers). (b) The proponent must submit to GRC the infrastructure agreement for approval prior to making an application for a development permit for material change of use within the HHID.		physical infrastructure required for providing essential services to the ~~HHID~~ project including: (i) water supply system ~~(including pipeline)~~ (ii) sewerage (iii) power (iv) telecommunications (v) stormwater drainage systems (vi) recycled water treatment and supply (vii) wastewater collection, treatment and disposal (viii) solid waste collection and disposal (ix) access road from Foreshores Road to HHI (x) bridge over Boyne Creek (xi) boat ramps (xii) internal roads, cycle ways and pedestrian paths (xiii) public parks and open space (including environmental buffers). (b) The proponent must submit to GRC the infrastructure agreement for approval prior to making an application for a development permit for material change of use within the ~~HHID~~ project.
Condition 9 (a) The proponent must enter into an operation and maintenance agreement with GRC to either maintain and operate the infrastructure or subsidise the costs of operating and maintaining infrastructure for a period of 17 years or otherwise agreed with GRC. (b) The proponent must submit to GRC the operation and maintenance agreement for approval prior to making an application for a development permit for material change of use within the HHID.		Condition 9 (a) The proponent must enter into an operation and maintenance agreement with GRC to either maintain and operate the infrastructure or subsidise the costs of operating and maintaining infrastructure for a period of 17 years or otherwise agreed with GRC. (b) The proponent must submit to GRC the operation and maintenance agreement for approval prior to making an application for a development permit for material change of use within the ~~HHID~~ project.
Condition 10 The HHID is to be connected to electricity and telecommunications to the requirements of the relevant authorities. The proponent is to fund all works including any alterations, relocations, or upgrade work necessary to		Condition 10 The ~~HHID~~ project is to be connected to electricity and telecommunications to the requirements of the relevant authorities. The proponent is to fund all works including any alterations, relocations, or upgrade work necessary to

Condition	Requested or Required Changes	Suggested Rewording
electricity and telephone installations resulting from or in connection with HHID.		electricity and telephone installations resulting from or in connection with ~~HHID~~ project.
Condition 11 Should any aspect of the development trigger appraisal under existing GRC infrastructure policies, the proponent must contribute towards GRC infrastructure prior to commencement of the use on site. The contributions are to be paid in accordance with the rates applicable at the date of payment.		Condition 11 Should any aspect of the development trigger appraisal under existing GRC infrastructure policies, the proponent must contribute towards GRC infrastructure prior to commencement of the use on site. The contributions are to be paid in accordance with the rates applicable at the date of payment.
Condition 12 (a) The proponent must consult with DEEDI, DERM, TMR and GRC prior to finalising the Boyne Creek bridge design. (b) Bridge works or any associated works must be restricted to within the exclusion area of the declared Fish Habitat Area Management A as shown at Figure 4 on plan number FHA-037 Colosseum Inlet. (c) The bridge must be constructed to allow clearance of at least 5.5 metres above HAT to enable navigational access during all tides for small vessels. (d) As part of the bridge construction works, the existing causeway within Boyne Creek between HHI and the mainland must be removed to the level of the existing depth adjacent to the causeway. All existing causeway material, outside of the permanent footprint of the Boyne Creek bridge and boat ramp, is to be removed and all fish habitats restored. The footprint of the causeway must be restored and rehabilitated within two years of commencing works associated with the HHID, or within six months of completing the Boyne Creek bridge, whichever is sooner.		Condition 12 (a) The proponent must consult with ~~DEEDI, DERM~~ DAF, DEHP, TMR and GRC prior to finalising the Boyne Creek bridge design. (b) Bridge works or any associated works must be restricted to within the exclusion area of the declared Fish Habitat Area Management A as shown at Figure 4 on plan number FHA-037 Colosseum Inlet. (c) The bridge must be constructed to allow clearance of at least 5.5 metres above HAT to enable navigational access during all tides for small vessels. (d) As part of the bridge construction works, the existing causeway within Boyne Creek between HHI and the mainland must be removed to the level of the existing depth adjacent to the causeway. All existing causeway material, outside of the permanent footprint of the Boyne Creek bridge and boat ramp, is to be removed and all fish habitats restored. The footprint of the causeway must be restored and rehabilitated within two years of commencing works associated with the project, or within six months of completing the Boyne Creek bridge, whichever is sooner.
Condition 13 The proponent must undertake construction of the Boyne Creek bridge as part of Stage 1 construction works for the HHID. The Boyne Creek bridge is to be completed within two years of the commencing the works associated with the		Condition 13 The proponent must undertake construction of the Boyne Creek bridge as part of Stage 1 construction works for the ~~HHID~~ project. The Boyne Creek bridge is to be completed within two years of the commencing the works associated with the ~~HHID~~

Condition	Requested or Required Changes	Suggested Rewording
HHID.		project.
Condition 14 (a) The proponent must consult with DEEDI, DERM and GRC prior to submitting the Clarks Road causeway upgrade design plans to GRC. (b) The proponent must submit relevant causeway upgrade design plans to GRC for operational works approval prior to any construction works. (c) Causeway design plans must include the following: (i) causeway upgrade works must be restricted to the current causeway alignment (ii) vehicle access must be controlled by use of temporary fencing delineating the works zone (iii) guard rails must be installed along the causeway and on approaches to the salt flat area.		Condition 14 (a) The proponent must consult with ~~DEEDI, DERM~~ DAF, DEHP and GRC prior to submitting the Clarks Road causeway upgrade design plans to GRC. (b) The proponent must submit relevant causeway upgrade design plans to GRC for operational works approval prior to any construction works. (c) Causeway design plans must include the following: (i) causeway upgrade works must be restricted to the current causeway alignment (ii) vehicle access must be controlled by use of temporary fencing delineating the works zone (iii) guard rails must be installed along the causeway and on approaches to the salt flat area.
Condition 15 (a) The Boyne Creek and Colosseum Inlet boat ramps must be designed and built in accordance with current TMR standards. (b) Boat ramps or other public fishing infrastructure must be constructed to minimise impacts on tidal fish habitats and marine plants. (c) The proponent must seek input from DEEDI (Fisheries Queensland), DERM and TMR on final boat ramp designs prior to submitting an application to GRC. (d) The proponent must obtain operational works (tidal works) approval from GRC prior to any construction.	Reference to Colosseum Inlet boat ramp has been removed, change ramps to ramp. Reference to the requirement to obtain a marine park permit	Condition 15 (a) The Boyne Creek ~~and Colosseum Inlet~~ boat ramp~~s~~ must be designed and built in accordance with current TMR standards. (b) Boat ramps or other public fishing infrastructure must be constructed to minimise impacts on tidal fish habitats and marine plants. (c) The proponent must seek input from ~~DEEDI, DERM~~ DAF, DEHP, NPSR and TMR on final boat ramp designs prior to submitting an application to GRC. (d) The proponent must obtain operational works (tidal works) approval from GRC prior to any construction. (e) Prior to any construction commencing, the proponent must obtain a Marine Park Permit to undertake works within the marine park.
Condition 16 (a) The proponent must ensure that the Boyne Creek boat ramp: (i) is appropriately managed to avoid any potential future dredging requirement		Condition 16 (a) The proponent must ensure that the Boyne Creek boat ramp: (i) is appropriately managed to avoid any potential future dredging requirement

Condition	Requested or Required Changes	Suggested Rewording
(ii) is restricted to within the exclusion area of the declared FHA Management A as shown on plan number FHS-037 Colosseum Inlet. (b) The Boyne Creek boat ramp must be designed to: (i) ensure car parking, rigging facilities and other associated facilities are located in a suitable location above HAT (ii) include access management features for the ramp, parking area and associated facilities to prevent vehicular access and minimise pedestrian access to tidal lands (except through proper use of the ramp to launch and retrieve vessels).		(ii) is restricted to within the exclusion area of the declared FHA Management A as shown on plan number FHS-037 Colosseum Inlet. (b) The Boyne Creek boat ramp must be designed to: (i) ensure car parking, rigging facilities and other associated facilities are located in a suitable location above HAT (ii) include access management features for the ramp, parking area and associated facilities to prevent vehicular access and minimise pedestrian access to tidal lands (except through proper use of the ramp to launch and retrieve vessels).
Condition 17 All water supply reticulation must be designed, constructed and maintained in accordance with GRC codes, policies, standards and specifications, applicable at the time and where relevant to GRC requirements.		Condition 17 All water supply reticulation must be designed, constructed and maintained in accordance with GRC codes, policies, standards and specifications, applicable at the time and where relevant to GRC requirements.
Condition 18 (a) The permanent potable water supply for the HHID must be sourced from the current Gladstone Area Water Board/GRC system and piped to the site to an appropriate storage for reticulation. (b) The water supply infrastructure provided must be capable of servicing the HHID at full occupancy and use, without the need for future augmentation by the GRC. (c) The proponent is responsible for the full cost of all necessary water supply infrastructure on the island. The proponent must enter into an agreement with GRC to determine an appropriate contribution to council costs for providing a water pipeline to the island.	Delete part (a) as GRC has indicated that it will not be extending its water supply system in the foreseeable future.	Condition 18 ~~(a) The permanent potable water supply for the HHID must be sourced from the current Gladstone Area Water Board/GRC system and piped to the site to an appropriate storage for reticulation.~~ (~~b~~a) The water supply infrastructure provided must be capable of servicing the ~~HHID~~ project at full occupancy and use, without the need for future augmentation by the GRC. (~~c~~b) The proponent is responsible for the full cost of all necessary water supply infrastructure on the island. The proponent must enter into an agreement with GRC to determine an appropriate contribution to council costs for providing a water pipeline to the island.
Condition 19 (a) If a temporary desalination plant is required as part of the construction phase of the development, the proponent must consult with GRC before commencing	Condition reworded to reflect that the desalination plant will provide for permanent water supply for the PTP	Condition 19 (a) ~~If a temporary desalination plant is required as part of the construction phase of the development,~~ The proponent must consult with GRC before commencing

Condition	Requested or Required Changes	Suggested Rewording
construction. The desalination plant and associated infrastructure and any subsequent decommissioning activities must be funded by the proponent. (b) If a temporary desalination plant is required as part of the construction phase of the development, the proponent must ensure: (i) monitoring of salinity levels in the evaporation ponds is undertaken during the wet season and extreme weather conditions (ii) discharge of potential overflow from the evaporation ponds is appropriately managed to ensure salinity levels are comparable to that of the receiving environment and that discharge occurs on an outgoing tide (iii) evaporation ponds are lined with either clay or a geotextile (with permeability less than 0.01 mm/day) to prevent leaching of saline concentrate to groundwater or leakage to surface waters.		construction of the desalination plant. The desalination plant and associated infrastructure and any subsequent decommissioning activities must be funded by the proponent. (b) ~~If a temporary desalination plant is required as part of the construction phase of the development,~~ The proponent must ensure: (i) monitoring of salinity levels in the evaporation ponds is undertaken during the wet season and extreme weather conditions (ii) discharge of potential overflow from the evaporation ponds is appropriately managed to ensure salinity levels are comparable to that of the receiving environment and that discharge occurs on an outgoing tide (iii) evaporation ponds are lined with either clay or a geotextile (with permeability less than 0.01 mm/day) to prevent leaching of saline concentrate to groundwater or leakage to surface waters.
Condition 20 (a) The proponent must specify the proposed recycled/wastewater treatment technologies in the infrastructure agreement with GRC mentioned in Appendix 1, Schedule 2, Condition 8. (b) The proponent must prepare a recycled water management plan in accordance with the *Water Supply (Safety and Reliability) Act 2008* and submit to DERM and GRC for approval prior to making an application for a development permit for material change of use within the HHID. (c) All permanent water storages must be constructed in accordance with the Queensland Water Recycling Guidelines (EPA 2005) and the Australian Mosquito Control Manual (Mosquito Control Association of Australia 2002). Temporary water storages must be constructed in accordance with the WSUD Technical Design Guidelines (Healthy Waterways 2006).	The Australian Mosquito Control Manual was updated in 2009 Item (c) - replace with Water Quality Guidelines for Recycled Water Schemes 2008 https://www.dews.qld.gov.au/__data/assets/pdf_file/0019/45172/water-quality-guidelines.pdf Mosquito control manual is now 2009	Condition 20 (a) The proponent must specify the proposed recycled/wastewater treatment technologies in the infrastructure agreement with GRC mentioned in Appendix 1, Schedule 2, Condition 8. (b) The proponent must prepare a recycled water management plan in accordance with the *Water Supply (Safety and Reliability) Act 2008* and submit to DEHP~~DERM~~ and GRC for approval prior to making an application for a development permit for material change of use within the ~~HHID~~ project. (c) All permanent water storages must be constructed in accordance with the latest versions of Queensland Water Recycling Guidelines ~~(EPA 2005)~~ and the Australian Mosquito Control Manual (Mosquito Control Association of Australia ~~2002~~). ~~Temporary~~ Water storages must be constructed in accordance with the latest version of the WSUD Technical Design Guidelines ~~(Healthy Waterways 2006)~~.

Condition	Requested or Required Changes	Suggested Rewording
Condition 21 (a) All sewerage reticulation for the HHID must be designed, constructed and maintained in accordance with GRC codes, policies, standards and specifications, applicable at the time and where relevant to GRC requirements. (b) All sewage generated by the HHID must be directed to and treated at a central sewage treatment plant within the development area. (c) No septic tanks are to be installed within the HHID.		Condition 21 (a) All sewerage reticulation for the ~~HHID~~ project must be designed, constructed and maintained in accordance with GRC codes, policies, standards and specifications, applicable at the time and where relevant to GRC requirements. (b) All sewage generated by the ~~HHID~~ project must be directed to and treated at a central sewage treatment plant within the development area. (c) No septic tanks are to be installed within the ~~HHID~~ project.
Condition 22 (a) An erosion and sediment control plan (ESCP) must be prepared by the proponent prior to commencing construction. The plan must be developed by a suitably qualified engineer in accordance with the Queensland Urban Drainage Manual (EPA 2007), WSUD Technical Design Guidelines (Healthy Waterways 2006) and the Soil Erosion and Sediment Control Engineering Guidelines for Queensland Construction Sites or subsequent revisions. The ESCP must be designed around the following objectives: (i) minimising vegetation and soil disturbance within ephemeral watercourses during construction (ii) drainage control from cleared areas (iii) erosion control of exposed surfaces (iv) sediment control (v) re-vegetation of cleared areas to re-establish ground cover.	Wording updated to reflect newer editions of the referenced documents	Condition 22 (a) An erosion and sediment control plan (ESCP) must be prepared by the proponent prior to commencing construction. The plan must be developed by a suitably qualified engineer in accordance with the latest version of Queensland Urban Drainage Manual ~~(EPA 2007)~~, WSUD Technical Design Guidelines ~~(Healthy Waterways 2006)~~ and the Soil Erosion and Sediment Control Engineering Guidelines for Queensland Construction Sites ~~or subsequent revisions~~. The ESCP must be designed around the following objectives: (i) minimising vegetation and soil disturbance within ephemeral watercourses during construction (ii) drainage control from cleared areas (iii) erosion control of exposed surfaces (iv) sediment control (v) re-vegetation of cleared areas to re-establish ground cover.
Condition 23 (a) The proponent must develop and implement a water quality monitoring program (WQMP) which is to be designed in accordance with relevant guidelines including the Queensland Water Quality Guidelines (DERM 2009), the draft Urban Stormwater Queensland	Item (a) should be updated - delete the reference to the Draft SPP for Healthy Waters as the GRC Planning Scheme is compliant with the SPP.	Condition 23 (a) The proponent must develop and implement a water quality monitoring program (WQMP) which is to be designed in accordance with relevant guidelines including the latest version of the Queensland Water Quality Guidelines ~~(DERM 2009)~~, the latest ~~draft version of the~~

Condition	Requested or Required Changes	Suggested Rewording
Best Practice Environmental Management Guidelines 2009 (DERM), the draft State Planning Policy for Healthy Waters 2009 (DERM), the ANZECC/ARMCANZ (2000) Guidelines and the Water Quality Guidelines for the Great Barrier Reef Marine Park (GBRMPA 2009). (b) The WQMP must be submitted to DERM and GRC for review prior to an application for a development permit for material change of use within the HHID. (c) As part of the WQMP, the proponent must undertake water quality baseline monitoring of turbidity, sediment pollutant concentrations and other parameters, within Colosseum Inlet, Boyne Creek and Rodd's Bay adjacent to HHI before commencing construction. (d) The findings of the WQMP must be used to determine water quality parameters for discharges from the development into the surrounding receiving water bodies.		Urban Stormwater Queensland Best Practice Environmental Management Guidelines ~~2009 (DERM)~~, ~~draft State Planning Policy for Healthy Waters 2009 (DERM),~~ the ANZECC/ARMCANZ (2000) Guidelines and the Water Quality Guidelines for the Great Barrier Reef Marine Park (GBRMPA 2009). (b) The WQMP must be submitted to ~~DERM~~ DEHP and GRC for review prior to an application for a development permit for material change of use within the ~~HHID~~ project. (c) As part of the WQMP, the proponent must undertake water quality baseline monitoring of turbidity, sediment pollutant concentrations and other parameters, within Colosseum Inlet, Boyne Creek and Rodd's Bay adjacent to HHI before commencing construction. (d) The findings of the WQMP must be used to determine water quality parameters for discharges from the development into the surrounding receiving water bodies.
Condition 24 (a) The proponent must prepare a detailed design of stormwater systems including an assessment of the stormwater runoff volume and any changes in quantity or quality of this runoff as a result of the development. The design is to be in accordance with the draft Urban Stormwater Queensland Best Practice Environmental Management Guidelines 2009 (DERM) and the draft State Planning Policy for Healthy Waters 2009 (DERM). Storm water controls must be designed to: (i) protect water environmental values specified in the Environmental Protection (Water) Policy 2009 (ii) minimise ecological impacts on waters in the locality (complying with water quality guidelines) (iii) make use of stormwater for recycling and water conservation	Item (a) should be updated - delete the reference to the Draft SPP for Healthy Waters as the GRC Planning Scheme is compliant with the SPP.	Condition 24 (a) The proponent must prepare a detailed design of stormwater systems including an assessment of the stormwater runoff volume and any changes in quantity or quality of this runoff as a result of the development. The design is to be in accordance with the latest version of the ~~draft~~ Urban Stormwater Queensland Best Practice Environmental Management Guidelines ~~2009 (DERM) and the draft State Planning Policy for Healthy Waters 2009 (DERM)~~. Storm water controls must be designed to: (i) protect water environmental values specified in the *Environmental Protection (Water) Policy 2009* (ii) minimise ecological impacts on waters in the locality (complying with water quality guidelines) (iii) make use of stormwater for recycling and water conservation (iv) make use of drainage corridors for improved recreational values and open space or landscape area

Condition	Requested or Required Changes	Suggested Rewording
(iv) make use of drainage corridors for improved recreational values and open space or landscape area (v) maintain acceptable health risks, aesthetics, protection from flooding, public safety and other social issues (vi) maintain existing runoff conditions (vii) maintain existing peak flow rates (viii) preserve existing drainage paths. (b) The stormwater designs and runoff assessment are to be submitted to DERM and GRC for review prior to an application for a development permit for material change of use within the HHID.		(v) maintain acceptable health risks, aesthetics, protection from flooding, public safety and other social issues (vi) maintain existing runoff conditions (vii) maintain existing peak flow rates (viii) preserve existing drainage paths. (b) The stormwater designs and runoff assessment are to be submitted to DEHP, DERM and GRC for review prior to an application for a development permit for material change of use within the ~~HHID~~ project.
Condition 25 (a) Prior to an application for a development permit for material change of use within the HHID, a TMP for council-controlled roads for the proposed development must be agreed with and submitted to GRC. The final TMP must consider impacts 10 years beyond the last development stage. (b) The TMP must address matters which include: (i) traffic to be generated by the proposed development and the development's impact on the external road network (ii) traffic to be generated by the proposed development on the major roads within the proposed development (iii) requirements and timing of upgrades to Turkey Beach Road and Foreshores Road due to development traffic (iv) the standard of the access road (Clarks Road) to the island from Foreshores Road (v) intersection treatments required due to development traffic at the following intersections: (A) Bruce Highway/Turkey Beach Road		Condition 25 (a) Prior to an application for a development permit for material change of use within the ~~HHID~~ project, a TMP for council-controlled roads for the proposed development must be agreed with and submitted to GRC. The final TMP must consider impacts 10 years beyond the last development stage. (b) The TMP must address matters which include: (i) traffic to be generated by the proposed development and the development's impact on the external road network (ii) traffic to be generated by the proposed development on the major roads within the proposed development (iii) requirements and timing of upgrades to Turkey Beach Road and Foreshores Road due to development traffic (iv) the standard of the access road (Clarks Road) to the island from Foreshores Road (v) intersection treatments required due to development traffic at the following intersections: (A) Bruce Highway/Turkey Beach Road (B) Turkey Beach Road/Foreshores Road

Condition	Requested or Required Changes	Suggested Rewording
(B) Turkey Beach Road/Foreshores Road (C) Foreshores Road/Clarks Road (vi) the minimum required standards for roads within the development. (c) The Manager of TMR (Assets and Operations) Fitzroy region must be consulted regarding any TMP which seeks to address intersections and road reserves involving a state-controlled road (e.g. Bruce Highway/Turkey Beach Road intersection). (d) If the TMP identifies a requirement for access and intersection treatment due to development traffic, the work must be carried out by the proponent at their cost.		(C) Foreshores Road/Clarks Road (vi) the minimum required standards for roads within the development. (c) The Manager of TMR (Assets and Operations) Fitzroy region must be consulted regarding any TMP which seeks to address intersections and road reserves involving a state-controlled road (e.g. Bruce Highway/Turkey Beach Road intersection). (d) If the TMP identifies a requirement for access and intersection treatment due to development traffic, the work must be carried out by the proponent at their cost.
Condition 26 GRC requirements for upgrading of council-controlled roads and intersections must be included in the GRC Infrastructure Agreement mentioned in Appendix 1, Schedule 2, Condition 8.		Condition 26 GRC requirements for upgrading of council-controlled roads and intersections must be included in the GRC Infrastructure Agreement mentioned in Appendix 1, Schedule 2, Condition 8.
Condition 27 (a) All roads, to be designated as public roads must be designed and constructed in accordance with GRC's codes, policies, standards and specifications applicable at the time of development. (b) All internal accesses, internal driveways, circulation roads, commercial vehicle provisions, car parking and manoeuvring areas must be designed in accordance with AS 2890 and comprise a sealed pavement to GRC requirements. Turnarounds and intersections must be provided to cater for garbage collection trucks to the requirements of GRC. (c) The maximum speed limit allowed within the HHID is 50 kilometres per hour, except the 500-metre section of road linking the northern and southern components of the development which must be speed limited to 40 kilometres per hour.		Condition 27 (a) All roads, to be designated as public roads must be designed and constructed in accordance with GRC's codes, policies, standards and specifications applicable at the time of development. (b) All internal accesses, internal driveways, circulation roads, commercial vehicle provisions, car parking and manoeuvring areas must be designed in accordance with AS 2890 and comprise a sealed pavement to GRC requirements. Turnarounds and intersections must be provided to cater for garbage collection trucks to the requirements of GRC. (c) The maximum speed limit allowed within the ~~HHID~~ project is 50 kilometres per hour, except the 500-metre section of road linking the northern and southern components of the development which must be speed limited to 40 kilometres per hour.

Condition	Requested or Required Changes	Suggested Rewording
Condition 28 (a) The proponent must consult with the Civil Aviation Safety Authority (CASA) and GRC in finalising the location and design of the proposed airstrip, before commencing construction. (b) The airstrip must be constructed and operated in accordance with relevant CASA requirements, such as CASA's Manual of Standards Part 139– Aerodromes. (c) The height and location of buildings and other infrastructure must be considered in accordance with relevant CASA requirements.		Condition 28 (a) The proponent must consult with the Civil Aviation Safety Authority (CASA) and GRC in finalising the location and design of the proposed airstrip, before commencing construction. (b) The airstrip must be constructed and operated in accordance with relevant CASA requirements, such as CASA's Manual of Standards Part 139– Aerodromes. (c) The height and location of buildings and other infrastructure must be considered in accordance with relevant CASA requirements.
Condition 29 (a) Landscaping shall be undertaken in accordance with GRC's codes and policies applicable at the time of development and shall be maintained to the satisfaction of GRC. (b) The proponent will prepare a detailed landscape master plan (LMP) for the island to be approved by GRC. The LMP must address the management of existing vegetation and the design and management of the public areas such as urban or tourist areas as well as infrastructure such as roads. Particular attention must be given to the early establishment of suitable vegetation and the creation of special areas suitable for water based recreation and enjoyment. The LMP must detail plant densities and species. Details on fertilizer and chemical usage will be provided in specifications attached to the approved landscaping plan		Condition 29 (a) Landscaping shall be undertaken in accordance with GRC's codes and policies applicable at the time of development and shall be maintained to the satisfaction of GRC. (b) The proponent will prepare a detailed landscape master plan (LMP) for the island to be approved by GRC. The LMP must address the management of existing vegetation and the design and management of the public areas such as urban or tourist areas as well as infrastructure such as roads. Particular attention must be given to the early establishment of suitable vegetation and the creation of special areas suitable for water based recreation and enjoyment. The LMP must detail plant densities and species. Details on fertilizer and chemical usage will be provided in specifications attached to the approved landscaping plan
Condition 30 The proponent must enter into an infrastructure agreement with GRC for the rehabilitation, ongoing management and conservation of all parts of HHI not allocated for urban purposes for not less than 17 years or until such time as the income from GRC's rates and services charges applied to the developed land allows GRC to take over responsibility of management and funding of these areas. The agreement must be submitted to GRC for approval prior to making an		Condition 30 The proponent must enter into an infrastructure agreement with GRC for the rehabilitation, ongoing management and conservation of all parts of HHI not allocated for urban purposes for not less than 17 years or until such time as the income from GRC's rates and services charges applied to the developed land allows GRC to take over responsibility of management and funding of these areas. The agreement must be submitted to GRC for approval prior to making an

Condition	Requested or Required Changes	Suggested Rewording
application for a development permit for material change of use within the HHID.		application for a development permit for material change of use within the ~~HHID~~ project.
Condition 31 Prior to making an application for a development permit for material change of use for all or part of the development subject to the preliminary approval, the proponent must: (a) provide a plan showing the exact boundary of the areas allocated for urban purposes within the lease, the esplanade, and the unallocated state land (b) provide to the assessment manager, a proposal for an agreement or arrangement whereby the part of the leasehold land not allocated for urban purposes will be transferred to protected area under the Nature Conservation Act 1992 to be managed by an appropriate trusteeship arrangement prior to commencement of the development.		Condition 31 Prior to making an application for a development permit for material change of use for all or part of the development subject to the preliminary approval, the proponent must: (a) provide a plan showing the exact boundary of the areas allocated for urban purposes within the lease, the esplanade, and the unallocated state land (b) provide to the assessment manager, a proposal for an agreement or arrangement whereby the part of the leasehold land not allocated for urban purposes will be transferred to protected area under the Nature Conservation Act 1992 to be managed by an appropriate trusteeship arrangement prior to commencement of the development.
Condition 32 A weed management plan must be developed for the site and surrounds to meet standards acceptable to DEEDI (Biosecurity Queensland) and the GRC prior to any disturbance occurring onsite.		Condition 32 A weed management plan must be developed for the site and surrounds to meet standards acceptable to DAF ~~DEEDI~~ (Biosecurity Queensland) and the GRC prior to any disturbance occurring onsite.
Condition 33 The proponent must develop a pest species management plan for the site and surrounds to meet standards acceptable to the QH and GRC prior to any disturbance occurring on site.		Condition 33 The proponent must develop a pest species management plan for the site and surrounds to meet standards acceptable to the QH and GRC prior to any disturbance occurring on site.
Condition 34 (a) The proponent must implement the following measures to avoid where possible or mitigate visual amenity impacts of the HHID: (i) design the Boyne Creek bridge to maintain some view of the landscape beyond the bridge (ii) locate all buildings and infrastructure including road cuttings below any prominent ridge line or hilltop so that there are no visible changes in the skyline	(v) Colorbond is a brand name - should be replaced with an alternative description such as coloured metal sheets (xiii) building height has changed to a maximum of 13.5m and 3 storeys in height for some development in the Tourist Precinct. This increase in building height was proposed as part of thethe project EIS and assessed in the context of the outstanding universal value (OUV) of the GBRWHA. This assessment	Condition 34 (a) The proponent must implement the following measures to avoid where possible or mitigate visual amenity impacts of the ~~HHID~~ project: (i) design the Boyne Creek bridge to maintain some view of the landscape beyond the bridge (ii) locate all buildings and infrastructure including road cuttings below any prominent ridge line or hilltop so that there are no visible changes in the skyline (iii) conform location and design of access roads and

Condition	Requested or Required Changes	Suggested Rewording
(iii) conform location and design of access roads and driveways to the landform and cause minimum visual impact or erosion hazard (iv) restrict roof tops of buildings to below the canopy height of the surrounding vegetation (v) where the cladding of any part of a house (including the roof and rain water tanks) is proposed to be in metal sheet, ensure cladding is Colorbond or painted in muted tones to reduce reflection (vi) where the wall cladding of a house is proposed to be in excess of 25 per cent timber siding or fibre cement siding or metal sheet, ensure cladding is painted or stained in muted tones prior to occupation of the house or within a specified time thereafter (vii) to not use reflective factory finished metal sheets i.e. untreated galvanised sheet, aluminium, zincalume, or white, off white or silver paint finishes for roofs unless the slope of the roof is 10 per cent or less (viii) retain existing vegetation on site, where practicable, and undertake only selected clearing for building envelopes and public spaces (ix) plant landscaped areas in public and private spaces with species that are native and occur locally on HHI (x) undertake additional plantings using seedlings of mature trees that will achieve a height above 10 metres with a dense understorey to increase density and screening qualities of vegetation (xi) limit development on the elevated sections of HHI and conform to GRC requirements (xii) limit development on the ridgelines to single storey residences (xiii) limit development to two-storey dwellings or 8.5 metres above natural ground level (except at ridgelines note above)	included Criterion vii which refers to world heritage sites that "contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance".	driveways to the landform and cause minimum visual impact or erosion hazard (iv) restrict roof tops of buildings to below the canopy height of the surrounding vegetation (v) where the cladding of any part of a house (including the roof and rain water tanks) is proposed to be in metal sheet, ensure cladding is non-reflective ~~Colorbond or painted in muted tones to reduce reflection~~ (vi) where the wall cladding of a house is proposed to be in excess of 25 per cent timber siding or fibre cement siding or metal sheet, ensure cladding is painted or stained in muted tones prior to occupation of the house or within a specified time thereafter (vii) to not use reflective factory finished metal sheets i.e. untreated galvanised sheet, aluminium, zincalume, or white, off white or silver paint finishes for roofs unless the slope of the roof is 10 per cent or less (viii) retain existing vegetation on site, where practicable, and undertake only selected clearing for building envelopes and public spaces (ix) plant landscaped areas in public and private spaces with species that are native and occur locally on HHI (x) undertake additional plantings using seedlings of mature trees that will achieve a height above 10 metres with a dense understorey to increase density and screening qualities of vegetation (xi) limit development on the elevated sections of HHI and conform to GRC requirements (xii) limit development on the ridgelines to single storey residences (xiii) limit development to ~~two~~-three storey dwellings or ~~8.5~~ 13.5 metres above natural ground level, or below the level of trees or ridgelines, whichever is the lower (except at ridgelines note above) (xiv) focus all lights in buildings and in public spaces on

Condition	Requested or Required Changes	Suggested Rewording
(xiv) focus all lights in buildings and in public spaces on the areas required and where possible lights to be equipped with motion sensor switches to minimise light duration (xv) shield external lighting in environmentally sensitive areas within the development, including the headland, to limit extraneous light where necessary or face away from coastal and habitat areas.		the areas required and where possible lights to be equipped with motion sensor switches to minimise light duration (xv) shield external lighting in environmentally sensitive areas within the development, including the headland, to limit extraneous light where necessary or face away from coastal and habitat areas.
Condition 35 The proponent must incorporate sustainability measures as outlined in the EIS, SEIS and list of commitments, in buildings and structures proposed to be erected in the HHID site. Such measures are to be included in the design guidelines for the development.		Condition 35 The proponent must incorporate sustainability measures as outlined in the EIS, SEIS and list of commitments, in buildings and structures proposed to be erected in the ~~HHID~~ project site. Such measures are to be included in the design guidelines for the development.
Condition 36 (a) The proponent and/or its contractor(s) must finalise the HHID environmental management plans for construction and operational management to the satisfaction of DERM and GRC at least one month prior to commencing construction. (b) The proponent must prepare a desalination plant and related activities (including the salt storage areas) decommissioning plan to form part of the EMP for the development. (c) The proponent and/or its contractor(s) must comply with all requirements of approved environmental management plans.		Condition 36 (a) The proponent and/or its contractor(s) must finalise the ~~HHID~~ project environmental management plans for construction and operational management to the satisfaction of DEHP ~~DERM~~ and GRC at least one month prior to commencing construction. (b) The proponent must prepare a desalination plant and related activities (including the salt storage areas) decommissioning plan to form part of the EMP for the development. (c) The proponent and/or its contractor(s) must comply with all requirements of approved environmental management plans.
Recommendation		
Recommendation 1 The Chief Executive of DNRM amend the state's lease for the HHID to include a condition which restricts the number of dwellings on the island to 2715 and specifies a 70/30 percentage split for short-term tourism (1925) and permanent residential dwellings (790) within the development footprint, generally in accordance with the draft plan of development (dated December 2010) provided	Changed development numbers as agreed with DotE and assessed and approved under EPBC Act	Recommendation 1 The Chief Executive of DNRM amend the state's lease for the ~~HHID~~ project to include a condition which restricts the number of dwellings on the island to ~~2715~~2695 and specifies a 70/30 percentage split for short-term tourism (1925) and permanent residential dwellings (~~790~~770) within the development footprint, generally in accordance with the draft plan of development (dated ~~November 2010~~ December 2015) provided

Condition	Requested or Required Changes	Suggested Rewording
to the Coordinator-General and GRC. Responsible entity: Chief Executive of DERM		to the Coordinator-General and GRC. Responsible entity: Chief Executive of ~~DERM~~ DEHP
Recommendation 2 The proponent consult with Emergency Management Queensland (EMQ), GRC to establish the responsible entity for ongoing maintenance of premises and maintenance and supply of vehicles and equipment. Responsible entity: Proponent		**Recommendation 2** The proponent consult with Department of Police, Fire and Emergency Services ~~Emergency Management Queensland (EMQ)~~, GRC to establish the responsible entity for ongoing maintenance of premises and maintenance and supply of vehicles and equipment. Responsible entity: Proponent
Recommendation 3 The proponent subsidise this service by providing training to staff to fulfil the State Emergency Service (SES) response role, if the development does not have the requisite permanent residence base to support a volunteer SES group. Responsible entity: Proponent		**Recommendation 3** The proponent subsidise this service by providing training to staff to fulfil the State Emergency Service (SES) response role, if the development does not have the requisite permanent residence base to support a volunteer SES group. Responsible entity: Proponent
Recommendation 4 The Chief Executive of DNRM amend the state's lease for the project to include a condition which states the following: a) Prior to the commencement of use of stage 2 of the development, the developer must enter into a social infrastructure agreement with the state to: i. provide land within the HHID for fire and rescue and ambulance infrastructure ii. provide land within the HHID for police infrastructure (including station, holding cells/watchhouse, residential accommodation and other necessary facilities (e.g. storage) iii. construct fire and rescue and ambulance infrastructure iv. construct police infrastructure v. undertake a combination of land dedication and construction works pursuant to points (i)-(iv) above, or		**Recommendation 4** The Chief Executive of DNRM amend the state's lease for the project to include a condition which states the following: a) Prior to the commencement of use of stage 2 of the development, the developer must enter into a social infrastructure agreement with the state to: i. provide land within the ~~HHID~~ project for fire and rescue and ambulance infrastructure ii. provide land within the ~~HHID~~ project for police infrastructure (including station, holding cells/watchhouse, residential accommodation and other necessary facilities (e.g. storage) iii. construct fire and rescue and ambulance infrastructure iv. construct police infrastructure v. undertake a combination of land dedication and construction works pursuant to points (i)-(iv) above, or vi. provide assistance, either financially or by other agreed means, to improve the current facilities

Condition	Requested or Required Changes	Suggested Rewording
vi. provide assistance, either financially or by other agreed means, to improve the current facilities responsible for ambulance and fire brigade servicing the proposed development area, or vii. be in accordance with any other agreement reached between the developer and the relevant state authority on behalf of the state to viii. discharge this condition, prior to the commencement of the use. b) Any construction of fire and rescue and ambulance infrastructure, or agreement to allow the construction of fire and rescue, ambulance and police infrastructure must be by agreement with the relevant state authority to ensure compliance with contemporary operational standards for the construction of such facilities. c) The proponent/developer must not market or advertise any agreement with the state about potential new, or upgrading of, ambulance, fire brigade or police services as part of the PTP. Responsible entity: Chief Executive of DNRM		responsible for ambulance and fire brigade servicing the proposed development area, or vii. be in accordance with any other agreement reached between the developer and the relevant state authority on behalf of the state to viii. discharge this condition, prior to the commencement of the use. b) Any construction of fire and rescue and ambulance infrastructure, or agreement to allow the construction of fire and rescue, ambulance and police infrastructure must be by agreement with the relevant state authority to ensure compliance with contemporary operational standards for the construction of such facilities. c) The proponent/developer must not market or advertise any agreement with the state about potential new, or upgrading of, ambulance, fire brigade or police services as part of the project. Responsible entity: Chief Executive of DNRM
Recommendation 5 The proponent liaise with DNRM to ensure all native title requirements are met prior to commencing development. Responsible entity: Proponent		**Recommendation 5** The proponent liaise with DNRM to ensure all native title requirements are met prior to commencing development. Responsible entity: Proponent
Recommendation 6 The Chief Executive of DNRM amend the draft lease to include a requirement that the following components of the project are completed prior to releasing the bond: a) emergency services infrastructure, including fire and rescue, ambulance and police (if required by these agencies) or contributions required by the appropriate authorities responsible for these services b) medical centre c) community centre d) picnic and barbecue areas e) surf life saving club	Change boat ramps to boat ramp	**Recommendation 6** The Chief Executive of DNRM amend the draft lease to include a requirement that the following components of the project are completed prior to releasing the bond: a) emergency services infrastructure, including fire and rescue, ambulance and police (if required by these agencies) or contributions required by the appropriate authorities responsible for these services b) medical centre c) community centre d) picnic and barbecue areas e) surf life saving club

Condition	Requested or Required Changes	Suggested Rewording
f) boat ramps. Responsible entity: Chief Executive of DNRM		f) boat ramps. Responsible entity: Chief Executive of DNRM
Recommendation 7 The Regional Harbour Master (Gladstone) consider imposing a general six knots speed limit in the vicinity of the the Boyne Creek bridge and boat ramp. Responsible entity: Regional Harbour Master (Gladstone)	Editorial	**Recommendation 7** The Regional Harbour Master (Gladstone) consider imposing a general six knots speed limit in the vicinity of the ~~the~~ Boyne Creek bridge and boat ramp. Responsible entity: Regional Harbour Master (Gladstone)
Recommendation 8 GRC consider any application it receives from the proponent for a desalination plant on the site to service the development, to be fully funded and managed by the proponent, until WS&S charges cover operating costs. Responsible entity: Chief Executive of GRC	No change	**Recommendation 8** GRC consider any application it receives from the proponent for a desalination plant on the site to service the development, to be fully funded and managed by the proponent, until WS&S charges cover operating costs. Responsible entity: Chief Executive of GRC
Recommendation 9 The Minister responsible for the *Nature Conservation Act 1992* should, for the portion of HHI outside the HHID development area: consider the declaration of a conservation park (with GRC as trustee) over the undeveloped portion of HHI Responsible entity: Chief Executive of DERM		**Recommendation 9** The Minister responsible for the *Nature Conservation Act 1992* should, for the portion of HHI outside the ~~HHID~~ project development area: consider the declaration of a conservation park (with GRC as trustee) over the undeveloped portion of HHI Responsible entity: Chief Executive of DEHP~~DERM~~
Recommendation 10 The Chief Executive of DNRM incorporate specific management measures to prevent further incursion of 'edge effects' of the remaining area of *Eucalyptus melanophloia* on HHI (approximately 10.6hectares) into the overall management of the proposed protected area on HHI. Responsible entity: Chief Executive of DNRM	No change	**Recommendation 10** The Chief Executive of DNRM incorporate specific management measures to prevent further incursion of 'edge effects' of the remaining area of *Eucalyptus melanophloia* on HHI (approximately 10.6hectares) into the overall management of the proposed protected area on HHI. Responsible entity: Chief Executive of DNRM

Hummock Hill Island

Pacificus Tourism Project

Appendix 8 Gladstone Regional Council - Planning Related Matters

Appendix 8. Gladstone Regional Council - Planning Related Matters

A8.1 Integration of the Project into the Greater Social, Economic and Environmental fabric of the Gladstone Region

Gladstone is considered by both the Queensland Government and the Commonwealth Government to be one of Australia's most important and strategic industrial development regions. The Gladstone Economic Investment Development Board estimates that investment in project construction, infrastructure and future operations will create over 20,000 local job opportunities over the next 20 years. Future regional economic growth is focussed on the development of major industrial projects that bring economic development, employment and associated population growth. The estimated residential population of GRC in 2014 was 66,000. Projections released in 2015 estimate that by 2031 the population will reach between 93,000 and 123,000 persons. However, to successfully compete for business investment and attract people to work in the region, Gladstone must present an exceptional social climate as well as a good business climate.

The current population and future growth is dictated by presence of employment opportunities, with TQ research identifying that:

> *"One third of the population lives there (Gladstone) not by choice but because circumstances demand it"* (TQ Research)

HHI has outstanding natural attributes and topography for a major resort and recreational development that are not present elsewhere in the region. The project will provide people living in Gladstone and the Central Queensland region with a much needed, high quality recreational destination with beaches, sporting and leisure facilities that are not currently available elsewhere in the region. The range of accommodation types and recreational opportunities proposed makes the project attractive to a wide demographic. The development will enhance the social and recreational infrastructure in the region, making the region more attractive to investors. The development will also enhance the contribution that tourism makes to the regional economy, diversifying the economic base of the region, and providing employment in the tourism and hospitality sectors as an alternative to industrial, construction and mining related work. This may reduce vulnerability of the region to fluctuations in individual sectors of the economy.

PTP meets the criteria to be considered a "Catalyst Project" under the Central Queensland Tourism Opportunity Plan (2009-2019) and meets all of the economic objectives of the Gladstone Regional Economic Development Strategy (March 2010) by diversifying the region's economic base, diversifying the community profile, and adding to the region's appeal as an investment location and as a place in which to work, live and do business.

Construction of the project will employ an average of 250 persons per annum in the region and the completed project will employ over 700 permanent full time positions in tourism and supporting businesses on the island.

The proponent is proposing a range of measures that will assist in the integration of the project into the wider Gladstone Regional Council community. These measures are detailed in the PTP EIS,

reflected in the proponent commitments detailed in Appendix 2 of the CoG Report (2010) and the in the conditions included as Appendix 1 of the CoG Report (2010). Some of the proposed actions are detailed below.

A8.1.1 Social

- The project will be an open community (as opposed to a gated community) allowing public access to all parts of the Island to create an inclusionary atmosphere.
- The project will become an important day destination for the regional population, providing a wide range of leisure activities.
- The project will improve the range of facilities available to nearby residents, including retail and hospitality outlets for their use, and contribute to economic vitalisation in the immediate area. This will be assisted by the upgrading of Clarks Road, improving access to HHI and to the wider road network for the existing mainland community.
- When completed, HHI will to deliver a range of community facilities benefiting HHI residents and existing communities in the area. The facilities proposed to be included within the development, and available to the residents of the region and visitors are:
    - Medical facilities
    - Research centre
    - Cultural heritage centre
    - Community centre
    - Conference facilities
    - Surf lifesaving facility
    - Public bus service
    - Restaurants and retail facilities
    - Recreation facilities.
- Community recreation facilities would include sporting fields, public parks, 18 hole golf course and country club, tennis courts, cycling paths, a lawn bowls green, beaches, boating facilities, camping grounds etc.
- The conditions to be imposed on the development by the CG requires the proponent to enter into a community facilities agreement with GRC to ensure the delivery of the community facilities.
- The project will provide formal and informal recreational activities for older people and participation in ongoing educational opportunities offered at the Island's education precinct. These facilities will be available to the whole community and provide activities and services that currently have limited available in the immediate region. In addition designs for community services and facilities will be disabled-and aged-friendly, to ensure continued mobility and access for older people.
- It is considered important to encourage participation by new residents and where appropriate, visitors, in the development of social networks, community facilities and community events, to encourage a sense of community. It would also be important to encourage participation by other local and regional residents in island events and activities, to build a wider sense of community and inclusion. This will be achieved in part through the provision of social and community infrastructure as part of the project.
- Investigations undertaken for this project identified a need for improved public transport between townships in the immediate vicinity of HHI. There are currently no plans by

Queensland Transport or GRC to provide public transport access to the area near the Island, as existing population levels do not warrant services. The proponent will provide a public bus service within the HHI development and to the mainland. This bus service will connect the project with Gladstone via Tannum Sands and provide residents in the wider region with public transport which is currently unavailable.

- The proponent will be required to enter into a social infrastructure agreement with the state. Consultation and communication with relevant Queensland Government departments will be undertaken during the detailed planning stage of the project to ensure that the facilities and services provided meet the needs of the community. Proximity to Gladstone will allow access to medical and government services and private practitioners specialising in servicing and supporting retirees' financial and other needs.
- It is anticipated that the island population is likely to add to the population base from which volunteer workers and community group members can be drawn, and increase the vitality of community organisations and networks. The proponent will facilitate development of community groups, support networks and events to build social capital within the community. It will be important to integrate residents of the project with residents in surrounding communities, including encouraging participation by other local and regional residents in island events and activities, to build a wider sense of community and inclusion. This may include promotion of HHI events or activities to regional communities, or participation in existing regional events and activities (i.e. Gladstone Harbour Festival, Gladstone Seafood Festival, Gladstone Annual Show, SUNfest, etc.) through sponsorship, displays at community events, or organisation of complementary events (e.g. as part of Council's Clean Up Australia Day activities).
- The Project will involve the local Traditional Owners the Gooreng Gooreng and Gurang. Consultation with existing Indigenous businesses and enterprises will be undertaken to identify opportunities for local Indigenous people in all construction and operation phases of the project. An Indigenous Cultural Centre will also be established on the island, offering an important tourist attraction for both foreign and domestic visitors, creating a unique attraction otherwise currently not found in the Gladstone region. The Centre will provide cultural experiences and would include the following:
    - Displays and information on the aboriginal history of the island
    - Interpretative walks/hikes around the island through designated sensory trails
    - An indigenous/traditional camping grounds to accommodate excursion students and visitors
    - Packages and programs for schools to educate students on Indigenous culture
    - Lectures and presentations in keys aspects of the indigenous culture.
- The Indigenous Cultural Centre will work with the islands resorts to match employment opportunities with the local indigenous community. During the development period the proponent will commit to provide training for up to 100 young members of the Indigenous community, based on the level of interest registered. In the early stages of the Project this training would be focussed on operation and construction occupations and then later in a wider range of development and tourism occupations, including as rangers for the managed conservation area.

A8.1.2 Economic

- The Project is a $950million development that will diversify the regional economic base injecting $65 million per annum in tourism expenditure by 2022 and over $95 million by 2030. The construction of the development will add $390 million to the regional economy and $460 million to the Queensland economy. On completion, the development will value-add $810 million to the regional economy from tourism expenditure. The project has the potential to be the focal point for tourism in the region, acting as a catalyst to a range of other tourism investment, marketing and product development.
- The project will generate direct and indirect employment opportunities during both the construction and operation phases.
- The project will offer regional opportunities for:
    - Local businesses
    - Materials suppliers
    - Contractors
    - Consultants
    - Young people in the tourism industry
    - Indigenous people.
- Unlike major industrial plants, this project will source the majority of its expertise, labour and materials from the region. Employment opportunities expected to be generated during construction include both skilled and unskilled positions, including in engineering design, construction supervision and trades, earthmoving, equipment operation, transport and building and landscaping.
- An Employment and Training Strategy will be prepared that includes:
    - A skills audit of existing local community to identify gaps in skills and workforce capacity required for construction
    - Identification of the skills required for construction and operation and trainings needs to enable local employees to gain the necessary skills
    - Identification of opportunities to work through State and Federal government apprenticeship and training programmes to address skills shortages and benefit community
    - Identification of opportunities to facilitate skills development for local residents through local training facilities such as Central Queensland TAFE and other local training providers, to enable local residents' employment in construction and operational aspects of the project
    - Facilitation of employment opportunities suitable for older people, including part-time or casual employment.
- The proponent will undertake skills training opportunities during construction, and facilitate a range of business and employment opportunities following construction within the village/town centres and resort facilities.
- Opportunities exist during both the construction and operation phases for training and employment initiatives for local Indigenous people. Skills and experience gained in this process would be transferable to other projects in the region, such as in the Gladstone State Development Area and the wider construction industry.
- Following construction, employment opportunities would also arise from tourism and commercial activity generated by the project. It is anticipated that the operational staff would

be sourced locally, either from residents living within the development or within the region. Substantial employment opportunities would also arise from the tourism activity generated by the project.

- Investigations undertaken for this project identified a need for improved public transport between townships in the immediate vicinity of HHI. There are currently no plans by Queensland Transport or GRC to provide public transport access to the area near the Island, as existing population levels do not warrant services.
- The proponent will provide a public bus service within the HHI development and to the mainland. This bus service will connect the project with Gladstone via Tannum Sands and provide residents in the wider region with public transport which is currently unavailable.

A8.1.3 Education

- When completed, HHI will to deliver a range of community facilities benefiting HHI residents and existing communities in the area. The facilities will provide facilities for formal and information education and learning. These facilities include:
    - Terrestrial and Marine Research Centre
    - Indigenous Cultural Centre
    - Ecological Design Centre
    - Community Centre
    - Conference facilities.
- The conditions to be imposed on the development require the proponent must enter into a community facilities agreement with GRC to ensure the delivery of the community facilities.
- Terrestrial and Marine Research Centre
  An environmental education facility is proposed to encourage community awareness, appreciation and understanding of native wildlife and to promote the GBRWHA to visitors and residents of the Island, in particular highlighting local and regional features that contribute to the OUV of the GBRWHA. Discussions are underway with Central Queensland University to enable the centre to contribute to academic and scientific research in relation to development in the region.
  Extension programs will be implemented to support the management of the conservation areas and the interaction of residents within those areas. The programs will promote an understanding of the environmental values of the island, the GBRWHA and the GBRMP and will include both voluntary conservation works and environmental education.
  The Centre will undertake:
    - Ecological and environmental monitoring programs that aim to inform land care and other conservation activities
    - Terrestrial and Marine Research with focus on local environmental works and land care activities
    - Development and management of programs that contribute to the ongoing operation of a marine mammal and turtle monitoring program aimed specifically at the Rodds Bay Dugong Protection Area
    - Development and management of the Marine Ecological Monitoring Plan to map and monitor key marine communities in the area including coral communities, seagrass beds, and mangroves.

Environmental education and extension programs will be developed to provide practical advice on interaction of the community with the GBRWHA. The programs will include school level education programs that engage participants in improved management and understanding of the threatening processes that impact the local catchments and their outflow to the GBRMP and WHA. Areas of interest will include appropriate fire management, soil conservation, interacting and living with wildlife and landscape function. The programs will include ecological and environmental monitoring programs that aim to inform landcare and other conservation activities in the region with a particular emphasis on the values of the GBRWHA.
The Centre will be initially funded by the proponent and then the local community through the proposed "Environment Levy" on businesses, tourists and residents.

- Indigenous Cultural Centre
  See in Social Above
- Ecological Design Centre
  The Proponent intends to establish a design centre to advise builders and owners and occupiers on:
  - Building and landscaping covenants
  - Design of buildings for tropical climates
  - The requirements of architectural guidelines
  - Use of appropriate building materials
  - Energy generation, use and conservation
  - Water use, recycling and conservation
  - Appropriate use of plants and landscaping
  - Bushfire management
  - Waste disposal and recycling
  - Environmental protection and management of the island and surrounding waters.
- An Employment and Training Strategy will be prepared that includes:
  - A skills audit of existing local community to identify gaps in skills and workforce capacity required for construction
  - Identification of the skills required for construction and operation and trainings needs to enable local employees to gain the necessary skills
  - Identification of opportunities to work through State and Federal government apprenticeship and training programmes to address skills shortages and benefit community
  - Identification of opportunities to facilitate skills development for local residents through local training facilities such as Central Queensland TAFE and other local training providers, to enable local residents' employment in construction and operational aspects of the project
  - Facilitation of employment opportunities suitable for older people, including part-time or casual employment.
- The proponent will establish a bus service to link with existing school bus services to existing schools in the region providing improved access to existing residents of the region and the new residents of HHI.

A8.1.4 Environment

- The project will undertake a range of actions that will not only assist in the management of the environmental values of HHI but also provide increased environmental protection to areas

within the development lease but outside the development footprint. This assists in the management of a regional environmental resource. The long term monitoring programs will provide valuable input to the GBRMPA 2050 Integrated Monitoring and Reporting Program on the environmental health of the southern GBR

- The Queensland Coordinator-General has imposed this as a condition of development and has also recommended to the Minister administering the Queensland Nature Conservation Act 1992 that the balance of HHI outside of the development be given conservation area status. During the development period the proponent will manage the conservation area. The proponent will implement and manage a Wildlife Habitat Management Plan for management of biodiversity values of HHI. This plan will include a range of management actions and controls to protect and enhance biodiversity values and manage interfaces between the development footprint and areas set aside for conservation.
- The proponent will develop and implement a Beach and Foreshore Management Plan which also includes a community education/awareness program to manage the sensitive areas particularly for turtles and shorebirds.
- The proponent is required to prepare a Heritage Values Management Strategy that is aligned with the strategies and programs of the Reef 2050 Long Term Sustainability Plan
- The proponent will develop and implement a Marine Ecological Monitoring Program to map and monitor key marine communities in the area.

A8.2 Addressing the needs of the HHI Community

The project is being designed to service the needs of a wide range of tourists, regional and local day trippers, residents of the district and the permanent resident population of the project. An estimated 1200 residents will live on the island when the project is fully completed. Tourism and community service developments on the island will employ up to 700 persons most of whom are expected to live on the island. 15% of the accommodation for permanent residents will be designed to provide low cost accommodation for workers in the tourism and retail businesses.

The project is 60 km by road from Gladstone, where major social infrastructure such as hospitals, specialist doctors and medical care; aged/community care, police, social services and schools are available. The project will provide the following social services to residents and tourists on the island:

- Medical centre and chemist
- Community centre
- Post office
- Pre-school centre
- Service Station
- Bus service to Tannum Sands and Gladstone
- Public boat ramp
- Life Saving Club
- Airport for light aircraft
- Tourism information centre
- Indigenous cultural centre.
- Terrestrial and Marine Research Centre

The Proponent is prepared to provide infrastructure for police, ambulance and fire fighting services if they are required by the Government to be located on the island.

Recreationally the project and its surrounding environment will offer a wide range of sporting and leisure activities for visitors and residents, including:

- golf course
- sports centre with squash and tennis courts
- world class fishing
- beaches
- bushwalks
- picnic grounds
- Indigenous Cultural Centre
- trips to the GBR Islands.

The project will develop 7500 m^2 of retail and commercial space to cater for both tourists and residents including:

- Food and Beverage outlets
- Convenience retail
- Tourist retail
- Supermarket
- Office space for commercial ventures.

A8.3 Project Infrastructure

The following built infrastructure will be required to service the proposed development:

- Intersection upgrade at the Bruce highway/turkey beach Road intersection
- Intersection upgrade at Turkey Beach Road/Foreshores Road intersection
- Upgrading of Foreshores Road to Clarks Road (about 3.4 km)
- Forming and surfacing of Clarks Road (about 8.6 km)
- Bridge across Boyne Creek
- Internal road network of sub-arterial or trunk collector roads and smaller collector and access streets
- Overhead mains power line from Turkey Beach Road to HHI (about 12 km)
- Underground power reticulation throughout proposed development
- Natural gas storage and reticulation throughout proposed development
- Desalination plant producing up to 500 kL/day of potable water
- Potable water supply reticulation network throughout the proposed development
- A wastewater treatment plant to treat about 1 ML/day of wastewater
- Sewage collection network transferring wastewater to the wastewater treatment plant
- Non-potable water supply reticulation network transferring treated recycled water throughout the proposed development
- Stormwater management systems including vegetated/grassed swales, bio-retention basins and detention basins.

The Proponent will fund and provide all necessary infrastructure for the development as well as contributions for external infrastructure so that local and State infrastructure providers are not affected.

The proponent proposes to develop the project's roads, water supply, wastewater and stormwater infrastructure under a BTO (Build-Transfer-Operate) agreement with the GRC. Under this arrangement the Proponent will build the infrastructure, maintain the infrastructure for a period of 12 months after construction is completed and then transfer ownership of the infrastructure to the GRC. The Proponent will then enter into a contractual agreement with GRC to manage, maintain and operate the infrastructure for a period of 12 years or until the income received from rates and charges exceeds the costs of operation and maintenance. The agreement will allow the proponent to recover a proportion of the operation and maintenance costs from rates collected by GRC during the period of this agreement. The proponent will provide training programs for GRC staff before transfer of operation and maintenance responsibilities to the Council.

A8.3.1 Water and Wastewater

The overall strategy for water supply and wastewater management for the project is one of self-sufficiency and independence from mainland supply, with a zero discharge system. Less than one quarter of the total demand for the development is for potable supply. This provides the opportunity to supply over 75% of the water requirements for the development from Class A+ recycled and untreated sources of water.

The proposed water supply system is an integrated system comprising of:

- Potable water (drinking and kitchen) from a small desalination plant. Desalination water will be circulated in a reticulation system throughout the development
- Rainwater from on-site rainwater tanks for showers and washing
- Rainwater can be used for potable uses (drinking, kitchen) if UV or filtration units are installed at the tank; this will be optional for all households
- Recycled water from treatment of wastewater is used for toilet flushing and all external uses
- Recycled water is also used for irrigation of public open space and the golf course.

Wastewater (greywater and blackwater) will be collected from households and commercial premises via a reticulated sewerage system. The sewerage reticulation system will be fully sealed to reduce the risk of leakage to protect the island groundwater resource and to avoid unnecessary destruction of vegetation from the construction of gravity sewers in deeper trenches. Pump stations will be required to transfer wastewater from the northern end of the Island to the treatment plant. The sewerage system will be able to convey up to four times the average dry weather flow and the sewage treatment plant will be able to treat up to three times the average dry weather flow.

Some storage capacity will be provided within the sewerage system and the wastewater treatment plant and pump stations will be designed with redundancy in terms of mechanical components and a backup power supply. The treatment plant will consist of two parallel modules of equal capacity such that if one malfunctions, the other can continue to treat at least part of the flow. A vacuum truck will be available for pumping out sewage pump stations in the event of a prolonged power failure or plant equipment failure such that the storage capacity of the system is exceeded. In this case, the sewage will be transported to a regional wastewater treatment facility.

The final stage in the integrated water management cycle for the proposed development is recycling of wastewater (grey water and black water) for non-drinking water use in:

- Toilet flushing
- External uses such as car washing and garden watering
- Irrigation of golf course and public open spaces, as a lower priority
- Firefighting.

The Class A+ recycled water will be delivered throughout the development via a separate reticulation system from a fully enclosed recycled water tank located adjacent to the potable water storage tank. Tank capacity is a nominal 1 ML (i.e. about 1 day's supply), with final capacity to be determined in detailed design stage.

Additional uncovered, lined storages will be provided at for water in excess of residential/tourism/commercial demands. This water will be used for irrigation of the golf course and airstrip.

Backup power will be provided to the desalination and waste water plants and pumping systems using gas fired generators.

A8.3.2 Domestic and General Waste

GRC will be responsible for the management and collection of domestic waste, with costs recouped via rates. For commercial premises, waste management and disposal will be the responsibility of the waste generator, who will engage a licensed recycling/waste contractor to dispose of waste material to the regional landfill. The proponent will meet the costs of purchasing two compactor trucks for use on the island.

A8.3.3 Stormwater

The overall objective of stormwater management will be to maintain the water quality and flows of existing natural systems on and around the Island.

The stormwater system will be designed so that where the hard surface catchment area is increased, compensatory measures are installed so that the overall runoff and hydrological regimes of the island are not altered, and flows to sensitive coastal and marine ecosystems are not changed.

The stormwater system will be designed using Water Sensitive Urban Design (WSUD) principles. Stormwater originating from all rainfall events of up to the 100-year recurrence interval will be attenuated close to the source, and released in a controlled manner which will resemble the natural drainage rates and pathways existing before development. Treatment devices, including bio-retention basins and swales and permeable pavements, will ensure that pollution originating from the development will be intercepted and removed from runoff in all storms of up to the three-month recurrence interval (in urban areas, the three-month flows account for approximately 90% of the mean annual runoff).

A8.3.4 Roads

The proposed access road to the development will follow the existing Clarks Road alignment and be contained wholly within the existing road reserve, stretching some 15 km from the Bruce Highway to the existing causeway.

The existing road network to Clarks Road is acceptable for the projected traffic volumes from the development. Clarks Road will require upgrade to a Class 3 Rural Arterial Road. The following table outlines the existing road classification and the proposed upgrade required for the projected population post development.

Existing and Proposed Road Upgrade

Road	Current Classification	Proposed Classification
Turkey Beach Road	Rural Collector	Class 3 Rural Arterial
Foreshores Road	Rural Collector	Class 3 Rural Arterial
Clarks Road	No Classification	Class 3 Rural Arterial

An assessment of road capacity and design requirements for the internal roads within the project will be made at the detailed design stage. Road and intersection designs will be in accordance with Queensland Streets Design Guidelines for Subdivisional Street Works.

Cycle paths will be provided throughout the development within the road reserves.

The two-lane Bridge over Boyne Creek will be 150 m long with 3 spans. The bridge will be designed to provide a clear height of 5.5m under the centre span to allow navigation through Boyne Creek.

A8.3.5 Airstrip

A small private airstrip will be constructed to the east of the main ridgeline and will utilise currently cleared ground of the former homestead airstrip. The airstrip will be an un-registered airstrip for use by planes with a maximum take-off weight (MTOW) of less than 5,700 kg and be designed to Australian Civil Aviation Advisory Publication No: 92-1(1) standard

A8.3.6 - Boat Ramp

A boat ramp will be built as part of the proposed development on the northern bank of Boyne Creek adjacent to the western side of the Boyne Creek Bridge. The Proponent will build the infrastructure, maintain the infrastructure for a period of 12 years after construction is completed and then transfer ownership of the infrastructure to the GRC.

A8.4 Management of Conservation Features

The proponent will seek to have the undeveloped areas of the island designated as a conservation area under Queensland State Government legislation. The Proponent will be responsible for land management of the protected area of the island during the period of the development (17 years). The long-term management of the undeveloped areas will be guided by a Conservation Area Management Plan to be implemented by a professional environmental management company under contract to the proponent. On completion of the development it is proposed that the conservation area be managed by GRC. The proponent proposes that the costs of long term management will

covered by a special area environmental charge to be paid by the land owners on the island through CRC's rates system.

A8.5 GRC Planning Scheme - Strategic Framework - Connecting our places

The project will be in accord with the connectivity strategies outlined the GRC's Strategic Framework as demonstrated in the following table.

Strategic Outcomes	Project Response
Communities are well connected to each other. Neighbourhoods are linked to centres, employment and recreation areas by an integrated transport system across a mix of modes that meets a range of mobility needs and offers choice about how to move around the region.	The project will be connected to the local communities of Bororen, Turkey Beach, Foreshores and the local rural community by an upgraded road network. A bus service will connect the project to Tannum Sands and Gladstone. PTP will be connected by road to the airport and rail terminals in Gladstone. Bus services operated by the proponent and by the tourist operators (hotels, tour operators etc) will link with the rail and air terminals. An estimated 700 persons will be employed on the island in the tourism and supporting businesses. 30% of the accommodation units to be developed on HHI will be for permanent residents, including a component of affordable housing minimising the need for local level trips on the major highway network. PTP will provide significant social infrastructure including health, retail, commercial and social services to the community on HHI and to the adjacent rural communities minimising the need to travel to Gladstone for support services.
Development achieves the efficient use of existing transport and community infrastructure and the timely and equitable delivery of new infrastructure.	There is no existing transport and little community infrastructure in the HHI area. PTP will provide significant social infrastructure including health, retail, commercial and social services to the proposed community on HHI and adjacent rural communities. Two commercial and retail areas will be developed on HHI. Social services will be located at these centres.
All communities have access to a range of facilities and services, public spaces, open space, sport and recreation areas.	The proposed community on HHI will have access to a wide range of facilities and services, public spaces, open space, sport and recreation areas (refer to Section 2.3.1 of the PTP EIS). These will also be available the adjacent rural communities.
Gladstone City provides the highest level community and health services and facilities for the region. Other major urban places such as Boyne Island / Tannum Sands and Calliope provide regional level sport and recreation facilities. Smaller places provide for community infrastructure to support their local needs.	PTP is 60 km by road from Gladstone City where major health and social services are available. The proponent will provide a medical centre and has offered to fund ambulance, police and fire fighting facilities within the development. Pacificus will provide other significant social infrastructure including retail, commercial and social services to the community on HHI and to the adjacent rural communities.
Pedestrian and cycle networks are fundamental to the movement functions	Pedestrian and cycle paths are proposed throughout the project and through the proposed conservation

Strategic Outcomes	Project Response
of neighbourhoods and centres throughout the region. They are essential components of new neighbourhoods, urban revitalisation neighbourhoods and other urban place types. Road corridors connecting important destinations throughout the region incorporate public transport and active transport modes and are designed to be safe and universally accessible.	areas on HHI. The proponent will upgrade the Turkey Beach Road, Foreshores Road and Clarkes Road to connect to the Bruce Highway. Bus services operated by the proponent and by the tourist operators (hotels, tour operators etc) will link with the rail and air terminals in Gladstone.
Public transport links mixed use centres with the region's new neighbourhoods, urban revitalisation neighbourhoods and existing suburban areas so that people have improved access to shopping, health care, community services and cross modal points (airport and railway).	The proponent will upgrade the Turkey Beach Road, Foreshores Road and Clarkes Road to connect to the Bruce Highway. The proponent will provide a bus service from HHI to Gladstone via Tannum Sands. PTP will be a largely self-supporting community, provided with the required important social, community, sporting and leisure infrastructure to minimise the need to travel to the major urban centres of Gladstone.
The road network ensures the safe and efficient movement of people to employment nodes (including specific use and industrial places) and mixed use centres.	The proponent will upgrade the Turkey Beach Road, Foreshores Road and Clarkes Road to connect to the Bruce Highway. The proponent will provide a bus service from HHI to Gladstone via Tannum Sands. 30% of the accommodation units to be developed on HHI will be for permanent residents. An estimated 700 persons will be employed on the island in the tourism and supporting businesses, minimising the need to travel on the major highway network
The Gladstone airport and major road transport corridors such as the Bruce and Dawson highways and other State controlled roads and arterial routes are protected from inappropriate development that undermines their efficient and safe operation.	Not applicable
Major freight and haulage routes avoid sensitive areas and surrounding development does not compromise their important function in servicing specific use and industrial places throughout the region.	Pacificus will not compromise the function of haulage route in servicing specific use and industrial places throughout the region.
Homes and businesses benefit from world class telecommunication and information networks to enable efficient business practices, encourage home based business opportunities and ensure community members are connected to their social networks throughout the region and elsewhere.	The proponent will install state of the art communications and information networks on the island
The Gladstone region is serviced by an integrated transport system that achieves	PTP will be connected by road to airport and rail terminals. Bus services operated by the proponent and

Strategic Outcomes	Project Response
the functional and efficient movement network of people, goods and services utilising road, rail, port and air travel modes	by the tourist operators (hotels, tour operators etc) will link with the rail and air terminals.
New urban areas such as the region's new neighbourhoods are designed using grid based street patterns that achieve high levels of connectivity and encourage walkability to key destinations for local businesses, community facilities, health services, shopping and entertainment, and recreational and sporting areas. Improvements to connectivity in existing suburban areas in Gladstone and Boyne Island / Tannum Sands will be facilitated wherever possible.	The project road, pedestrian and cycle networks will be designed to achieve high levels of connectivity and safety.
Major urban arterials such as the Bruce Highway, Dawson Highway (between Gladstone and Calliope), Kirkwood Road, Gladstone - Benaraby Road, Boyne Island Road, Tannum Sands Road and Fingerboard, Tableland and Round Hill roads and other state controlled roads perform national and regional functions. Development throughout the region preserves this network and minimises the need for any local level trips on these routes	30 % of the accommodation units to be developed on HHI will be for permanent residents. An estimated 700 persons will be employed on the island in the tourism and supporting businesses, minimising the need for local level trips on the major highway network

A8.6 Project Population

A8.6.1 Resort Population

The project master plan proposes a diverse range of tourist and permanent accommodation. The ultimate community will consist of an estimated 2700 tourists during peak periods and 1200 residents. The projected growth in population during the development period is shown in Figure A8-1 and the seasonal variation in population when the development is fully completed is shown in Figure A8-2. The projected seasonal variations in the numbers of tourist, staff and residents on the island shown in Figure A8-2 are based on historical records of popular tourist periods in the region and projected school holiday periods.

A8.6.2 Construction Workforce

It is estimated that construction will employ an average of 190 jobs on the island and generate an average of 230 direct and indirect jobs per year, and a peak employment of 460 persons. At a State level, the project is estimated to directly and indirectly generate almost 4700 person years of employment in construction, with an average of 260 jobs per year, and a peak employment of 510 persons.

Construction will create employment opportunities that include skilled and unskilled positions in engineering design, construction supervision and trades, earthmoving, equipment operation,

building and landscaping. It is anticipated that the project can be constructed utilising contractors and workers that already reside and operate in the Gladstone Region. During the construction of the first stage of the project, that provides the primary infrastructure to the island the work force will travel from within the local community to the site each day. During the 14 year construction period of the tourist and residential components many of the workers may choose to buy or rent accommodation in the project. There will be no construction camps on the island.

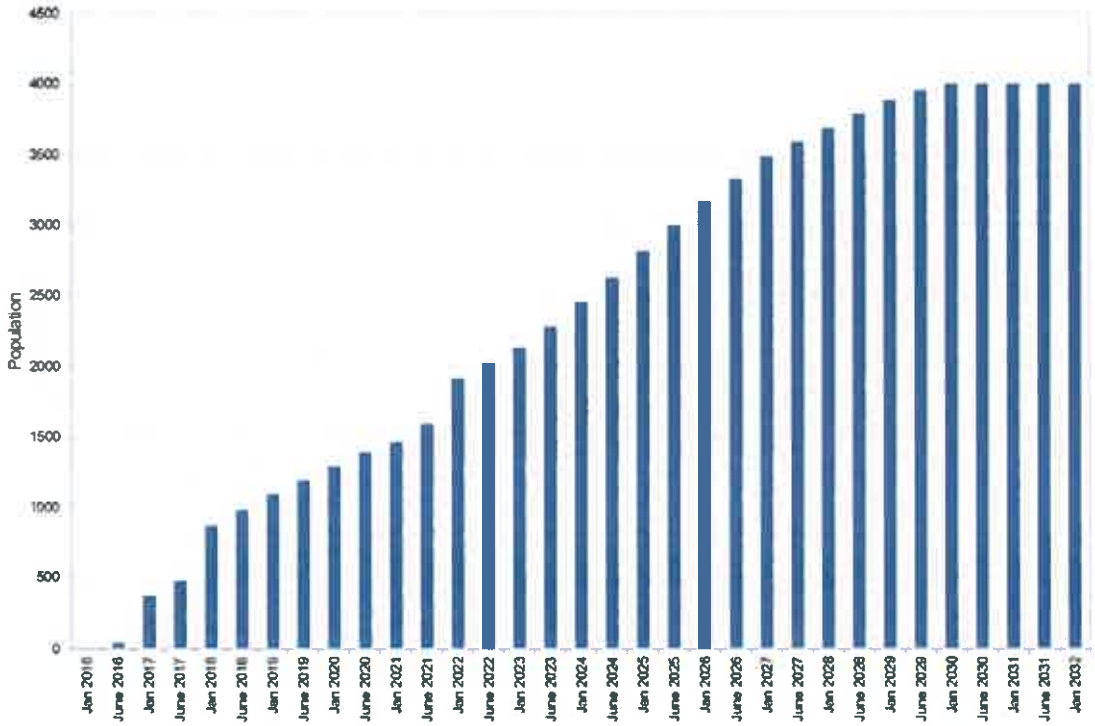

Figure A8-1 Projected Growth in Population during the Development (Note, start date has been delayed, however the pattern of population growth will not change)

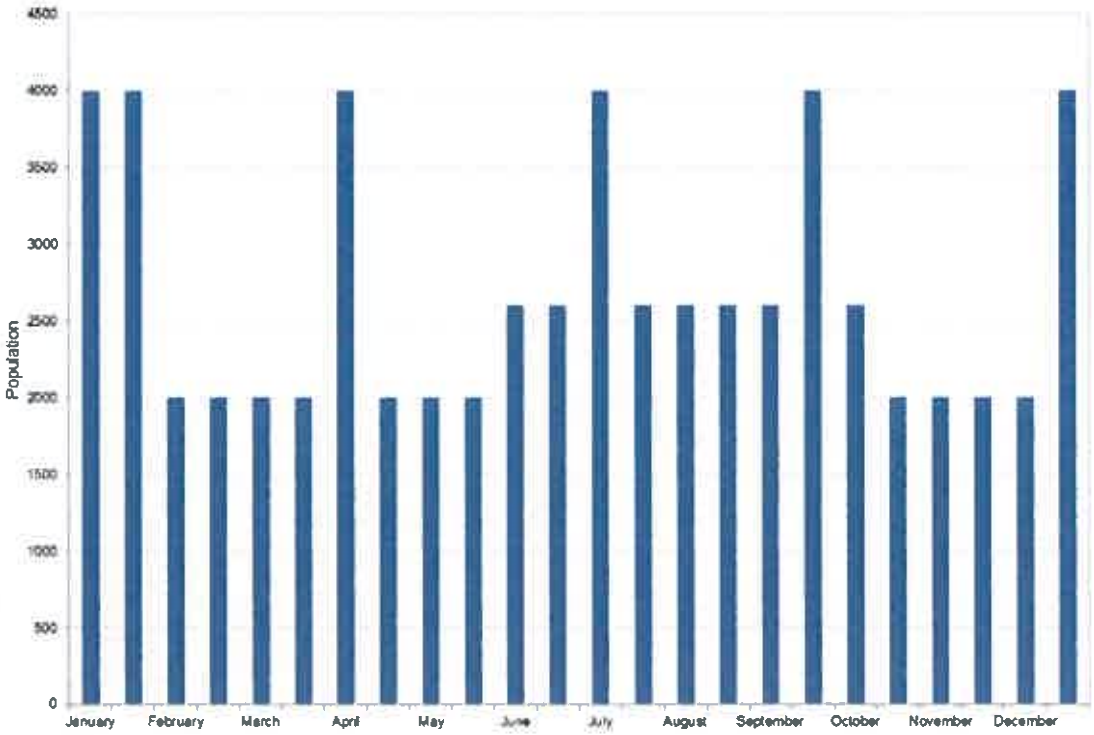

Figure A8-2 Seasonal Variation in Population - Completed Development

Hummock Hill Island

Pacificus Tourism Project

Appendix 9 HHI Site Specific Erosion Prone Area Study

WATER TECHNOLOGY
WATER COASTAL & ENVIRONMENTAL CONSULTANTS

Pacificus Development
Hummock Hill Island
Assessment of Erosion Prone Area Width

June 2016

DOCUMENT STATUS

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PROJECT DETAILS

Project Name	Pacificus Development, Hummock Hill Island
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Client Project Manager	John Kelly
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Cover Photo: Foreshore of the proposed Pacificus Development site on Hummock Hill Island.

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Photo taken 15th March 2016.

EXECUTIVE SUMMARY

Water Technology has been commissioned by Eaton Place Pty Ltd to investigate the potential for erosion along the ocean frontage of the proposed Pacificus Development on Hummock Hill Island, some 30kms south-east of Gladstone. This report presents the findings of an investigation of the processes contributing to erosion risk at the site.

The methodology applied to this determination of erosion prone areas on the foreshore frontage of the Pacificus development is that required by the "*Coastal hazard technical guide. Determining coastal hazard areas*" prepared by the Department of Environment and Heritage Protection. It takes into account potential long-term erosion trends, as well as erosion caused by a severe storm/cyclone and the response of the beach to sea level rise under a future climate change scenario.

Following a site specific analysis of these various aspects, the following recommendations are made:

- 80 metres be adopted as the Erosion Prone Area Width along the sand beach frontage when planning the Pacificus development – superseding the currently designated 120 metre width indicated on Erosion Prone Area Map GLR3A Map 6.
- Around the headland at the eastern end of the beach, the erosion prone area be adopted to the plan position of present day HAT plus 0.8m (which is the line defined by the RL+2.91m AHD contour line) along the rocky seaward face of the headland – superseding the currently designated 75 metre width indicated on Erosion Prone Area Map GLR3A Map 6

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1. INTRODUCTION

Water Technology has been commissioned by Eaton Place Pty Ltd to investigate the potential for erosion along the ocean frontage of the proposed Pacificus Development on Hummock Hill Island, some 30kms south-east of Gladstone.

Part of the project incorporates residential and tourism development on the north-western shores of Hummock Hill Island. A *Concept Master Plan* for the development is included as Appendix A to this report.

Figure 1-1 illustrates the location of Hummock Hill Island in a regional context. Figure 1-2 presents an aerial view of the north-western shores of Hummock Hill Island (including the site of the proposed development).

The foreshore currently has a 120 metre wide Erosion Prone Area designated along the sandy northwest shoreline; and 75 metres on an adjacent headland. These widths are nominated in the erosion prone area mapping prepared by Queensland's Department of Environment and Heritage Protection (DEHP).

Eaton Place Pty Ltd wishes to investigate the adequacy of the nominated Erosion Prone Area Width on each of these two foreshore precincts; and to have any nominated Erosion Prone Area Widths amended as necessary.

This report presents the findings of an investigation of the processes contributing to erosion risk at the site. The report is structured as follows:

- This Section 1, which consists of an introduction and provides some background regarding the proposed Pacificus development site.
- Section 2 of this report presents a discussion of the methodology applied by Water Technology to the calculation of the Erosion Prone Area Width – using the technical approach advocated by Queensland's Department of Environment and Heritage Protection.
- This is followed in Section 3 by a discussion of specific characteristics which affect the potential for local shoreline recession at the proposed development site on Hummock Hill Island.
- In Section 4, the concept of erosion prone areas on Queensland's shoreline is discussed and the currently designated Erosion Prone Area Widths along the project's north-western foreshore are presented and discussed.
- In Section 5, the specific site factors discussed in Section 3 are integrated with the calculation techniques for determining the Erosion Prone Area Widths; and then compared to the nominated widths. Where appropriate an amended Erosion Prone Area Width is recommended for local foreshores under investigation.
- Section 6 provides details as to technical references used in our assessment.
- This is followed by a number of appendices used to supplement discussions in the report.

Figure 1-1 **Regional location of Hummock Hill Island**

Figure 1-2 **North-western foreshores of Hummock Hill Island**

2. METHODOLOGY FOR DETERMINING EROSION PRONE AREAS

2.1 Background

The provision of a foreshore buffer zone is based on the philosophy that natural processes shaping shorelines should be accommodated rather than prevented. The most fundamental means of accommodating these processes is to avoid locating coastal developments within dynamic foreshore areas affected by accretion and erosion cycles. An adequate buffer zone allows for the maintenance of these natural fluctuations without the high cost of property protection works, adverse impacts on beach amenity, or the risk of storm damage to foreshore infrastructure.

The buffer zone concept has been an intrinsic part of the coastal management policy of the Queensland State Government since the establishment of the (now disbanded) Beach Protection Authority in 1968.

The determination of an appropriate width for the buffer zone is not a simple matter, as it requires an understanding of the complex interaction of the many physical processes acting on any particular foreshore. When nominating buffer zones along the Queensland coastline, the Department of Environment and Heritage Protection (ie. DEHP) has designated local *Erosion Prone Areas*. A discussion of the Erosion Prone Areas currently designated at the proposed Pacificus development site is offered in the later Section 4 of this report.

However, it is pertinent at this point to note the assessment methodology required for the calculation of erosion prone area widths for locations along the state's coastline is defined in the Department of Environment and Heritage Protection guideline (ie. *EHP Guideline*), *"Coastal hazard technical guide – Determining coastal hazard areas"* (Department of Environment and Heritage Protection, 2013). The following formula is used:

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

where....

E = Width of the Erosion Prone Area (*metres*)

N = Timeframe for consideration of long-term erosion trends (*years*)

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

C = Short-term erosion due to the design cyclone event (*metres*)

S = coastal recession due to sea level rise as a consequence of future climate change (metres)

F = Factor of Safety to account for uncertainties in the techniques

D = Component to allow for the collapse of the erosion scarp (*metres*)

The following discussions in this Section 2 relate to the methodologies applied to the assessment of each component of this equation when determining the width of the Erosion Prone Area at the Pacificus site on Hummock Hill Island.

The outcomes of calculations and their specific values are presented in the later Section 5 of this report.

2.2 Long-term Erosion (NxR)

There are two main causes of long-term erosion on a foreshore, namely

- a continuing net loss of sand from the beach system (typically as a result of a deficit in natural sand supply to a coastal reach), resulting in an on-going recession of the shoreline.
- a progressive rise in sea level causing a shoreline readjustment.

The latter is considered separately under the current methodology for assessing erosion prone areas in Queensland, since the component *S* in the formula addresses this specific phenomenon. Consequently, it is ongoing deficit of sand from the active littoral system which is considered to contribute to long-term erosion.

Long-term changes in sediment supply to foreshores manifest themselves as long-term erosion or accretion. They are typically associated with natural processes – such as offshore sand bar migrations; sediment delivery to the coast by flood events; meandering of tidal channels or creek and river entrances; along with other such phenomenon.

There have been no significant coastal works or infrastructure developments in the vicinity of the Pacificus foreshore in recent times which might have initiated changes to the natural littoral regime. Consequently, the rate of any ongoing long-term recession (i.e. the value of *R* in the formula) at the site can be estimated by investigating past natural trends.

There have been no historical surveys undertaken of the site or along adjacent coastal reaches which could inform any assessment of long-term changes to shoreline topography, or be used to determine a local sediment budget. Consequently, in order to identify long-term erosion trends on the project foreshore, historical aerial photographs have been analysed. This presents the opportunity to identify any historical movement of the shoreline, and to therefore quantify previous long-term erosion rates at the site. These are then considered as long-term annual averages that can be extrapolated over a planning horizon.

When considering the timescale to apply to long-term erosion trends (i.e. the value of *N* in the formula) the *EHP Guideline* advocates the use of 50 years. This should not be confused with the planning horizon when considering future climate change effects which pertain to a planning period that extends to the year 2100.

2.3 Short-term Erosion (C)

The large waves, elevated water levels and strong winds generated by a storm or cyclone can cause severe erosion on sandy foreshores. The selection of the appropriate parameters which constitute the "design" storm is unfortunately not a straightforward nor simple task. It involves the joint occurrence of large waves and elevated ocean water levels.

Wave characteristics and the storm surge can generally be estimated for a storm/cyclone of any given intensity and size, however the storm tide level depends upon when the peak surge occurs in relation to the astronomical tide. A large surge with severe waves occurring at low tide might result in less erosion than a mild surge and moderate wave conditions occurring at high tide.

However, given that beach erosion along the project foreshores is more sensitive to storm tide level than to the height of the waves, an appropriate approach is to adopt a severe storm tide occurring in association with a "moderate" wave event. This is the approach also proposed by the *EHP Guidelines*.

The parameters currently used throughout Queensland by the DEHP for determining the value of short-term erosion impacts (i.e. the value of C) on coastlines such as that on Hummock Hill Island are as follows:

- storm tide level corresponding to a 100 year Average Recurrence Interval, in conjunction with
- the wave characteristics for a moderate storm (i.e. the 20 year Average Recurrence Interval wave event).

There are several computational models available which can be used to predict the response of a sandy beach to cyclone conditions, and to therefore calculate the short-term erosion component C.

It is important to consider the merits and shortcomings of each when determining the most appropriate model for the physical environment and prevailing oceanographic conditions at Hummock Hill Island.

As water level and/or wave conditions change on any sandy foreshore, the profile of the beach will respond toward a new equilibrium. Where these conditions change gradually, the changes to the beach will maintain pace with the driving influences. Under such circumstances "static" models are appropriate. However, rapidly changing wave and water level conditions (as occur during storms or cyclones) require "dynamic" models which consider the time dependent nature of beach erosion and acknowledge that the equilibrium condition is very unlikely to be attained during a severe storm.

At locations (such as the Pacificus site) where the erodible beach is "perched" above wide intertidal flats, the varying depth of water across the seabed approaches onto the foreshore substantially affects the amount of wave energy reaching the beach. Therefore, if the response of the Pacificus beach to storm conditions is to be predicted with any confidence, it is necessary to use a dynamic model to investigate cyclone-induced erosion.

To determine the response of the local foreshore to the design storm event, the numerical model SBEACH has been applied. It is a dynamic computational model and therefore properly considers the transient nature of beach profile adjustments. This system is used extensively throughout the world by the coastal engineering profession when investigating beach response to storm waves.

This Storm-induced BEAch CHange (SBEACH) model is a numerical simulation model of cross-shore beach, berm, and dune erosion produced by storm waves and elevated ocean water levels. It was developed by the Coastal Engineering Research Center of the US Army Corps of Engineers, specifically for examining the performance of beach systems subject to onshore/offshore sand movements under strong wave action.

SBEACH incorporates a detailed description of breaking wave transformation and sediment transport across the beach profile, especially near the breakpoint. The model approximates the equation for conservation of sand in finite difference form - with vertical changes in water depth determined by horizontal gradients in sediment transport rate. It is therefore suited to simulating offshore sand bar formation and evolution.

Other reasons for selecting the SBEACH modelling approach were:

- Beach profile changes can be driven in the model by changes in water levels and changes in wave conditions. This is a vital consideration for storm situations - where intense storm surge and wave conditions coexist for durations well short of those required for the development of an "equilibrium" profile.
- The local water level increase due to wave setup is included in the computational processes – using calculation procedures which consider the random nature of the incident waves. Again this phenomenon is important since potential inundation of the Hummock Hill Island foreshore during the peak of the cyclone also determines the necessary width of the Erosion Prone Area.

2.4 Effects of Sea Level Rise (S)

The DEHP considers that there is a significant body of evidence supporting a projected sea level rise of approximately 0.8 metres on the Queensland coastline by the year 2100. Consequently, this provision must be made in the assessments of erosion prone area widths.

The "Bruun Rule" is a commonly used method for determining shoreline response to a rise in sea level. It is based on the concept of an equilibrium beach profile being maintained during gradual sea level rise – by transferring sand from the upper beach down into the nearshore zone. The beach profile is therefore maintained by way of a landward shift of the shoreline.

However, for beaches where tide has a greater influence on beach morphology than waves (such as those on Hummock Hill Island), the Bruun Rule has limitations. Tide dominated beaches are characterised by a relatively steep sandy upper beach slope (sometimes referred to as a perched beach) fronted by wide flat intertidal approaches comprised of finer sediments. In such environments the Bruun rule is not applicable over the entire profile of the shoreline, but a modified form of the Rule is often applied on the upper sandy beach profile only.

This is a reasonable compromise since sea level rise will predominantly impact on the upper beach and dune, and so this region of the profile will most influence the response of the shoreline to sea level rise. As discussed in Section 3.3, a modified version of the Bruun Rule has been used when assessing the required width of the erosion prone area of the project foreshore.

2.5 Factor of Safety

Whilst the calculation procedures applied to the determination of Erosion Prone Area widths are consistent with sound coastal engineering principles, they are nevertheless subject to various uncertainties and limitations. Consequently (and in accordance with normal engineering practice) a factor of safety is applied to the calculations.

A value of 40% is currently adopted by the *EHP Guidelines* as an appropriate factor of safety when calculating the width of the Erosion Prone Area (ie. the value of *F* in the formula is 0.40). However, this is applied only to the short-term, long-term and sea level rise components - not the recession due to collapse of the dune scarp.

The *EHP Guidelines* further state that the Factor of Safety is warranted since there is no conscious effect made to select conservative values associated with the short-term, long-term and sea level rise components.

2.6 Dune Scarp Collapse (D)

For cases where the foredune is not overtopped, the calculations of beach profile response typically assess the erosion only as far as the limit of wave runup. However subsequent collapse or slumping of the erosion scarp can threaten structures located immediately behind the scarp.

Typically, the slope from the toe of the erosion scarp up to the foreshore area behind will flatten further than its natural angle of repose, to a slope of approximately 1 vertical to 2.5 horizontal. Consequently, an additional component to account for this aspect is included as the component *D* in the calculation of the Erosion Prone Area width. However as discussed in later sections of this report, the SBEACH model can incorporate this dune scarp collapse phenomenon within its calculation procedures.

3. CHARACTERISTICS OF THE SITE

3.1 Introduction

The preceding Section 2 of this report discussed the methodology by which the Erosion Prone Area width can be calculated. In order to apply these techniques to calculate the width, it is necessary to have an appropriate appreciation of the prevailing oceanographic conditions and the physical characteristics of the site.

For instance, predictive models of beach response need information about the profile of the beach; the seabed approach slopes; the nature of the sand; anticipated storm surge levels; and incident storm wave characteristics.

Prior to reporting on the calculations of the Erosion Prone Area width in Section 5 of this report, a discussion of these specific aspects on the north-western foreshores of Hummock Hill Island is warranted.

3.2 Beach and Nearshore Profiles

The project foreshore has a concave planform which faces out towards the north-north-east. Figure 1-2 presented earlier in this report shows an aerial image of the north-western shores of Hummock Hill Island. There are primarily two distinct features of the foreshore area which can be seen in that figure; namely a sand beach perched at the rear of wide intertidal flats; and a rocky headland at the eastern end of the beach.

The seabed approach onto these foreshores will determine how and where incoming storm/cyclone waves will break. Consequently, the form of the seabed immediately offshore of the site will have considerable influence on the amount of wave energy reaching the beach. Figure 1-2 shows that a significant feature of the nearshore bathymetry is the wide flat intertidal area immediately offshore of the proposed development site. This intertidal region extends for approximately 400 metres offshore and significantly influences the transmission of waves from deep areas offshore onto local foreshores.

A LiDAR survey of the Pacificus development site has been produced using data supplied by a one-metre resolution Digital Elevation Model (DEM). The LiDAR data was collected as part of the Queensland Government's Gladstone LiDAR Capture Project. For the purposes of this assessment, bathymetric survey data from published marine charts has been combined with the LiDAR data. This then defines a cross-shore profile that extends from onshore locations, across the currently designated Erosion Prone Area, down the beach slope, across the flat intertidal approach slopes and into deeper water. Offshore of the intertidal flats, the bathymetry is somewhat complex due to the dredged South Passage navigation channel into the Port of Gladstone which is approximately 8kms offshore, as well as Seal Rocks some 4.5kms offshore.

The bathymetry indicates that the seabed slopes steadily from water depths of around 10 metres adjacent to the South Passage Channel up to the edge of the intertidal area, where it then becomes much gentler across the approximately 400 metre wide intertidal zone. The width of this flat relatively featureless intertidal area narrows slightly opposite the eastern end of the beach and the rocky headland.

This flat intertidal zone consists of fine-grained sediments in front of a steeper sloped beach of coarser grained sand perched at the landward extreme of this intertidal zone. The sand beach slopes at approximately 1-in-20 up to the toe of a low foredune near the level of Highest Astronomical Tide.

The Pacificus foreshore has the very distinct morphological characteristics of a tide-dominated beach, with the beach sub-type defined as *Beach and Sand Flats* (ie . B+SF) under the *Australian Beach Systems* classification (Short, 2006). The B+SF classification is assigned specifically to the Pacificus foreshore by Short (2000).

Thickly vegetated dune ridges run parallel to the foreshore behind the low foredune, creating shallow swales that are roughly parallel to the shoreline. The crest of the front dune system is around RL+4m AHD along the western half of the beach, lowering from RL+3.5m AHD from the central part of the beach (along the Pacificus foreshore) eastward to a rocky headland.

3.3 Sediment Transport

The coastal processes shaping the north-west corner of Hummock Hill Island are such that there is a net east-to-west longshore littoral transport. Sand is moved along shore primarily by the prevailing wave climate.

Aerial photographs taken at the times listed below have been compared so as to identify any long-term change in the location of the seaward edge of the vegetation line. Observations made during several site visits spanning some 10 years confirm that the vegetation line is closely aligned with the toe of the low foredune.

- July 1959
- May 1965
- December 1973
- January 1988
- June 1992
- June 1996
- May 2001
- July 2010
- June 2014

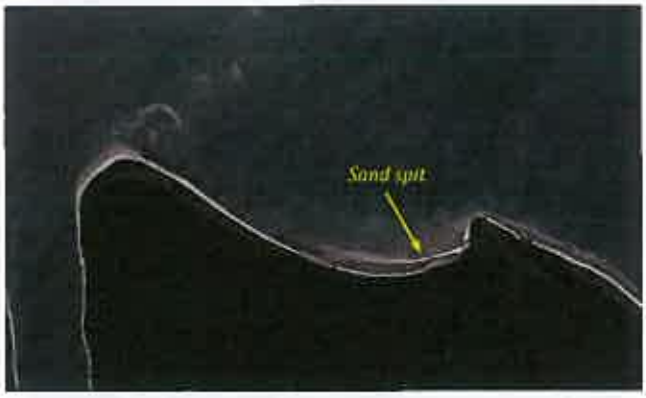
Interpretation of these historical aerial photographs show that westward moving sand is carried around the rocky headland at the eastern end of the sand beach. This results in a low wide sand spit being formed on the intertidal flats along an alignment roughly parallel to the downdrift shoreline.

The physical characteristics and location of this spit varies considerably in response to the annual variability of the longshore supply and the episodic erosion of storms and cyclones. This variability is illustrated by reference to Figure 3-1. At times the spit links directly with the beach, creating a direct pathway to the beach for sand moving alongshore - refer to Figure 3-1(c). This also creates a shallow intertidal "lagoon" immediately offshore of the eastern end of the beach.

Sand naturally bypassing the headland is transported westward by the prevailing coastal processes, along the changing sand spit onto the beach (either directly or across a short expanse of intertidal flat), then towards Tiber Point alongside the entrance to Colosseum Inlet. Once in this area the effects of tidal flows in the Inlet overwhelm the longshore transport rates and sand is swept onto an ebb tide delta. Natural sand bypassing of this entrance area through the ebb tide shoals results in sand being transported back onto the down-drift foreshores of Wild Cattle Island.

The above aerial photographs were obtained from the Queensland Department of Natural Resources and Mines as high resolution scanned images. ARCGIS was then used to "rubber sheet" the images using second-order polynomial transformation to geo-reference the coastal area of the photos. This was done by starting with the most recent aerial photography, then working back through the historical sequence. Prominent features such as rock outcrops, trees and other topographical features that are evident in all of the photographs were used as tie-points for the polynomial transformations.

(a) January 2006



(b) May 2011

(c) November 2012

(d) October 2013

Figure 3-1 Variability of sand spit off eastern end of the sand beach

Figure 3-2 Historical changes to the foreshore

Once appropriately georeferenced, the position of the toe of the frontal dune (which site inspections verified was also the more easily identified seaward edge of terrestrial vegetation) was drawn on each of the images. This allowed an overlay of historical shoreline positions to be made.

The aerial photographs show that the sandy shoreline at Tiber Point (to the immediate west of the Pacificus site) has accreted 140 metres between 1965 and 2014. This equates to an average accretion rate of 3 metres per year.

However, being located inshore of the variable sand spit, the foreshore along the Pacificus site shows a more variable historical position and orientation. An analysis of aerial photographs between July 1959 and June 1996 shows that this foreshore was accreting at a rate of around 0.9 metres per year. This, in conjunction with the finding of a 3 metres per year accretion downdrift, suggests that a significant proportion of the longshore sand transport towards Tiber Point occurs along the sand spit rather than being assimilated into the beach/dune system. The next available photographs in the historical sequence were taken in May 2001.

These show the foreshore located almost 30 metres inland from the 1996 position. Given that the foreshore had been accreting up until that time it is evident that a major cyclone or storm event caused significant erosion at some point between the photographs taken in June 1996 and May 2001.

An analysis of historical cyclone occurrences reveals that in early-April 2001 (ie. one month before the May 2001 aerial photographs were taken) Tropical Cyclone Sose would have significantly affected the foreshores of Hummock Hill Island.

A very tight pressure gradient between TC Sose and a ridge to its south generated extremely large waves along the east coast of Australia, including Central and South-east Queensland (Chappel and Bate, 2003). Two people drowned in uncharacteristically heavy surf near the Town of 1770 – some 45kms south-east of Hummock Hill Island.

This exceptionally strong wave activity along the foreshores of Hummock Hill Island also coincided with very high spring tides. The highest ocean water levels recorded at the Gladstone tide gauge around the time of TC Sose were within 3cm of Highest Astronomical Tide. This combination of a high storm tide and very severe waves would have resulted in significant erosion of local sandy foreshores.

Given the severity of this cyclone event, in conjunction with it occurring about a month prior to the aerial photographs taken in May 2001, it is reasonable to conclude that the approximately 30 metre recession of the shoreline evident in the comparison of 1996 and 2001 photographs was due to particularly severe cyclone erosion caused by TC Sose in April 2001.

Aerial photographs taken subsequent to those of May 2001 show the Pacificus shoreline again accreting, but also being affected by episodic storm/cyclone events. It is evident that the north-west foreshore of Hummock Hill Island between the rocky headland and Tiber Point experiences long-term accretion processes that are often masked in the historical record of shoreline position by severe episodic erosion events.

3.4 Sediment Characteristics

Samples of sand have been taken from the beach face and from within the Erosion Prone Area. Particle Size Distribution tests (ie. a sieve grading) have been carried out to determine the physical nature of the sand on the beach. As discussed in Section 3.2 the wide intertidal flats in front of the sandy beach consist of fine-grained material – typical of tide-dominated foreshores.

Results of the grading analyses are included in Appendix B, and they have been summarised on Figure 3-3. Both sand samples show very similar physical characteristics.

The Particle Size Distribution test results show that when calculating beach response on the project foreshore of Hummock Hill Island it would be appropriate to adopt a D_{50} value of 0.2mm for the sand in the active beach system.

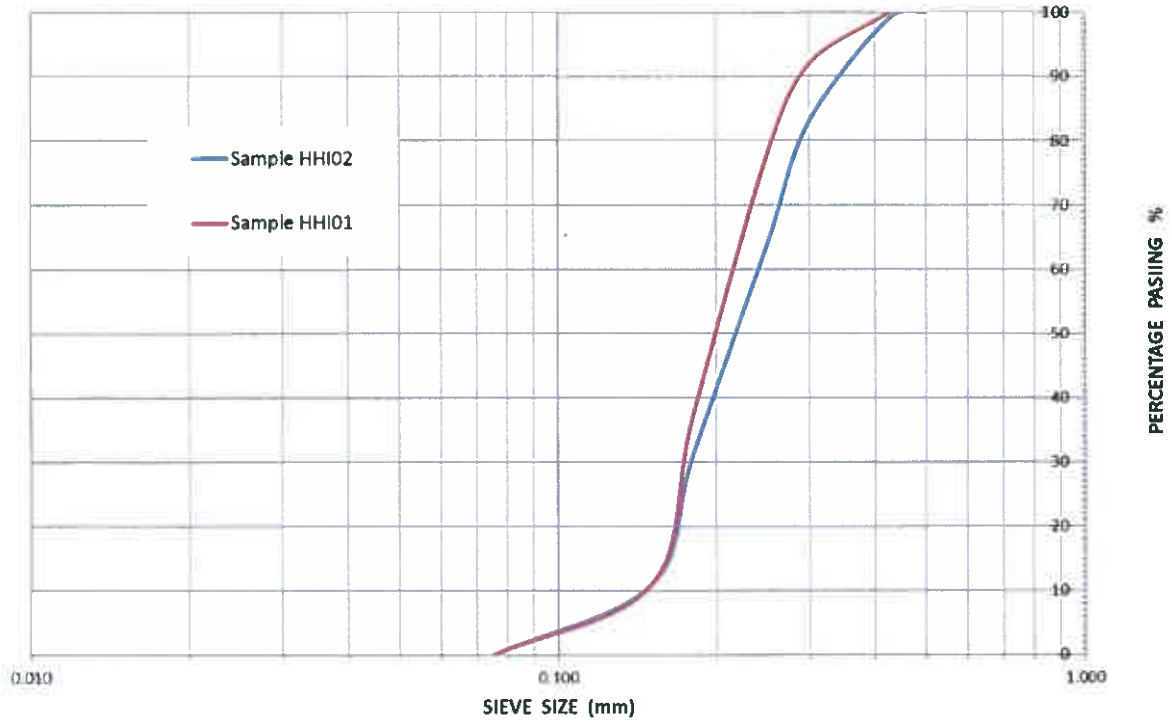


Figure 3-3 Grading analysis of foreshore sand

3.5 Ocean Water Levels

3.5.1 Tidal Planes

An important consideration in the declaration of the width of the Erosion Prone Area by DEHP is the level of Highest Astronomical Tide (HAT) on the foreshores of Hummock Hill Island. Since the tidal planes for this location have not been specifically defined, it is necessary to infer these from the tidal planes published for nearby coastal reaches. Tidal planes have been published by Maritime Safety Queensland (Department of Transport and Main Roads, 2015) for a number of nearby locations, namely Gatcombe Head and Clews Point. Figure 3-4 shows the location of these with respect to Hummock Hill Island.

Since the proposed Pacificus development is located approximately midway between these two locations, the tidal planes for the project foreshores have been inferred from those at Gatcombe Head and Clews Point. These are shown on Table 3-1.

It is pertinent to note that it is not appropriate to simply adopt the tidal planes for the Port of Gladstone for this project as perhaps has been done in the past. This is because the tidal regime within that enclosed body of water is not representative of the tidal planes on the open coast.

As can be seen in Table 3-2 and in Table 3-2, the maximum astronomical tidal range on the ocean-side of Hummock Hill Island is 3.89 metres, with an average range during spring tides of 2.69 metres and 1.23 metres during neap tides.

Figure 3-4 Location of tidal plane stations in the vicinity of Hummock Hill Island

Table 3-1 Tidal Planes in the vicinity of Hummock Hill Island (to Chart Datum)
(Tidal Planes for Hummock Hill Island are inferred)

Tidal Plane	Gatcombe Head	*Hummock Hill Island inferred*	Clews Point
Highest Astronomical Tide (HAT)	4.29 metres	*3.89 metres*	3.5 metres
Mean High Water Springs (MHWS)	3.45 metres	*3.17 metres*	2.9 metres
Mean High Water Neaps (MHWN)	2.71 metres	*2.46 metres*	2.2 metres
Mean Sea Level (MSL)	2.08 metres	*1.86 metres*	1.64 metres
Mean Low Water Neaps (MLWN)	1.37 metres	*1.23 metres*	1.1 metres
Mean Low Water Springs (MLWS)	0.56 metres	*0.48 metres*	0.4 metres
Lowest Astronomical Tide (LAT)	0.0 metres	*0.0 metres*	0.0 metres

Table 3-2 Inferred Tidal Planes for Hummock Hill Island (to Chart Datum and to AHD)

Tidal Plane	to AHD	to Chart Datum
Highest Astronomical Tide (HAT)	2.11 metres	3.89 metres
Mean High Water Springs (MHWS)	1.39 metres	3.17 metres
Mean High Water Neaps (MHWN)	0.67 metres	2.46 metres
Mean Sea Level (MSL)	0.07 metres	1.86 metres
Mean Low Water Neaps (MLWN)	-0.55 metres	1.23 metres
Mean Low Water Springs (MLWS)	-1.31 metres	0.48 metres
Lowest Astronomical Tide (LAT)	-1.79 metres	0.0 metres

3.5.2 Storm Tide Characteristics

The technique for assessing cyclone-induced erosion of the Hummock Hill Island foreshore requires the determination of the 100 year Average Recurrence Interval (ARI) storm tide level. The level to which ocean water can rise on a foreshore during the passage of a cyclone or an extreme storm event is typically a result of a number of different effects. The combination of these various effects is known as storm tide. Figure 3-5 illustrates the primary water level components of a storm tide event. A brief discussion of each of these various components is offered below.

- Astronomical Tide

  The astronomical tide is the normal day-to-day rising and falling of ocean waters in response to the gravitational influences of the sun and the moon. The astronomical tide can be predicted with considerable accuracy.

  Astronomical tide is an important component of the overall storm tide because if the peak of the storm/cyclone were to coincide with a high spring tide for instance, severe flooding of low lying coastal areas can occur and the upper sections of beaches and coastal structures can be subjected to severe wave action. The quite high spring tides that typically occur in summer are of particular interest since they occur during the local cyclone season.

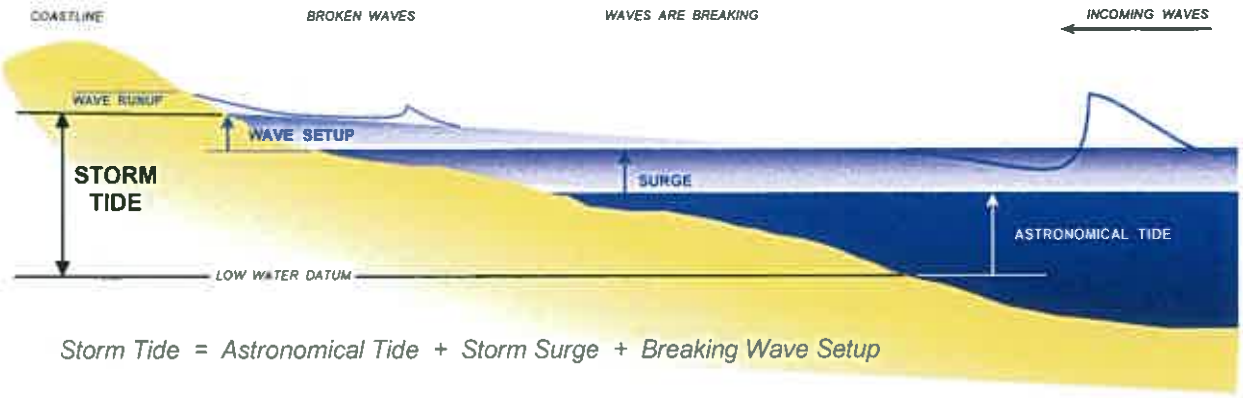


Figure 3-5 Components of a Storm Tide Event

- Storm Surge

  This increase in the ocean water level is caused by the severe atmospheric pressure gradients and the high wind shear induced on the surface of the ocean by a tropical cyclone. The magnitude of the surge is dependent upon a number of factors such as the intensity of the cyclone, its overall physical size, the speed at which it moves, the direction of its approach to the coast, as well as the specific bathymetry of the coastal regions affected.

  In order to predict the height of storm surges, these various influences and their complex interaction are typically replicated by numerical modelling techniques using computers.

- Breaking Wave Setup

  The strong winds associated with cyclones or severe storms generate waves which themselves can be quite severe. As these waves propagate into shallower coastal waters, they begin to shoal and will break as they encounter the nearshore region. The dissipation of wave energy during the wave breaking process induces a localised increase in the ocean water level shoreward of the breaking point which is called breaking wave setup.

  Through the continued action of many breaking waves, the setup experienced on a foreshore during a severe wave event can be sustained for a significant timeframe and needs to be considered as an important component of the overall storm tide on a foreshore.

- Wave Runup

  Wave runup is the vertical height above the local water level up to which incoming waves will rush when they encounter the land/sea interface. The level to which waves will run up a foreshore depends significantly on the nature, slope and extent of the land boundary, as well as the characteristics of the incident waves. For example, the wave runup on a gently sloping beach is quite different to that of say a near-vertical impermeable seawall.

  Consequently because this component is very dependent upon the local foreshore type, it is not normally incorporated into the determination of the storm tide height. Nevertheless, it needs to be considered separately during the assessment of the storm tide vulnerability of Hummock Hill Island foreshores.

The most recently published results of storm tide investigations in the Gladstone region are included in a study of climate change and community vulnerability to tropical cyclones (James Cook University, 2004). That study also addresses the effect of future climate change on sea level rise and tropical cyclone intensity and occurrences.

The 100 year ARI storm tide level reported by that study for Tannum Sands (approximately 8kms to the north-west of Hummock Hill Island) is RL+2.95m AHD.

Given that both Hummock Hill Island and Tannum Sands are in close proximity, have virtually the same shoreline orientation, and very similar nearshore and offshore bathymetry, it is appropriate to adopt that same level for Hummock Hill Island foreshores. However, unlike the current requirement to consider future climate changes effects out to the year 2100, the James Cook University (2004) study considers only storm tide levels under a future sea level rise of 0.3 metres, not 0.8 metres as predicted to occur for 2100.

The Queensland Government's "*Coastal hazard technical guide – Determining coastal hazard areas*" identifies that when updating the earlier storm tide statistics, the additional rise in sea level to the year 2100 can simply be added to the reported storm tide levels. Therefore, an additional 0.5 metres (ie. the 0.8m now required for determining storm tide levels; minus the 0.3m already allowed for under the earlier assessment) needs to be added to the storm tide levels reported by the James Cook University (2004) study.

This results in the selection of a 100year ARI storm level at Hummock Hill Island in the year 2100 of:

RL+2.95m AHD + 0.5 metres = RL+3.45m AHD.

However, this does not include the localised effects of wave setup or wave runup on the Hummock Hill Island shoreline - which need to be considered by any assessment of shoreline erosion and inundation. Such aspects are discussed in further detail in the later sections of this report.

3.6 Storm Wave Characteristics

As discussed previously, the wide intertidal flats and shallow seabed approach slopes onto the Pacificus foreshore play a significant role in regulating the amount of wave energy that reaches shore. As large offshore waves propagate shoreward they encounter decreasing depths of water, which results in the waves shoaling and ultimately breaking - dissipating wave energy as they do so. As it is the depth of water that controls how and when incoming waves will break, the ocean water level prevailing at the time of the storm is a significant factor governing wave energy transmission. Indeed, it is more influential in determining the characteristics of the storm waves at the shoreline than the characteristics of the waves themselves in deep water offshore.

In other words, for any given storm tide level the size of waves reaching the shore are less dependent on the size of offshore waves, and more influenced by the depth of water over the intertidal flats. A storm with big offshore waves will see most of the largest waves in the spectrum break before reaching shore; a less severe storm (at the same storm tide level) will have mostly the same size waves reaching shore as the severe event - but just have fewer large waves breaking offshore. The extent of wave breaking nevertheless does have an influence on the wave setup component of storm tide at the beach face.

As discussed in Section 2.3, when selecting the wave characteristics associated with a 100 year ARI storm event, the 20 year ARI wave characteristics are deemed to occur in association with a 100 year ARI storm tide.

A detailed Wave Study has not been undertaken for this assessment. Instead the approximately 71,750 individual recordings of wave parameters by the DEHP's Waverider Buoy moored off Gladstone for almost 9 years have been analysed.

An Extremal Significant Wave Height Analysis has been undertaken on the recorded data so as to provide *significant wave height* (Hs) estimates for various recurrence intervals. Five candidate probability distributions are fitted to a selection of 249 identified events during the recording period where the Hs exceeded 1.5 metres. Candidate distribution functions used were the Fisher-Tippett

Type I and the Weibull with exponents ranging from 0.75 to 2.0. Goodness-of-fit information is provided by the analysis for identifying the distributions which best match the input data.

That analysis of wave records identified the ARI associated with various wave heights at the Waverider site. The results are shown summarised on Figure 3-6. Reference to this figure indicates a 20 year ARI value of 3.64metres for the significant wave height.

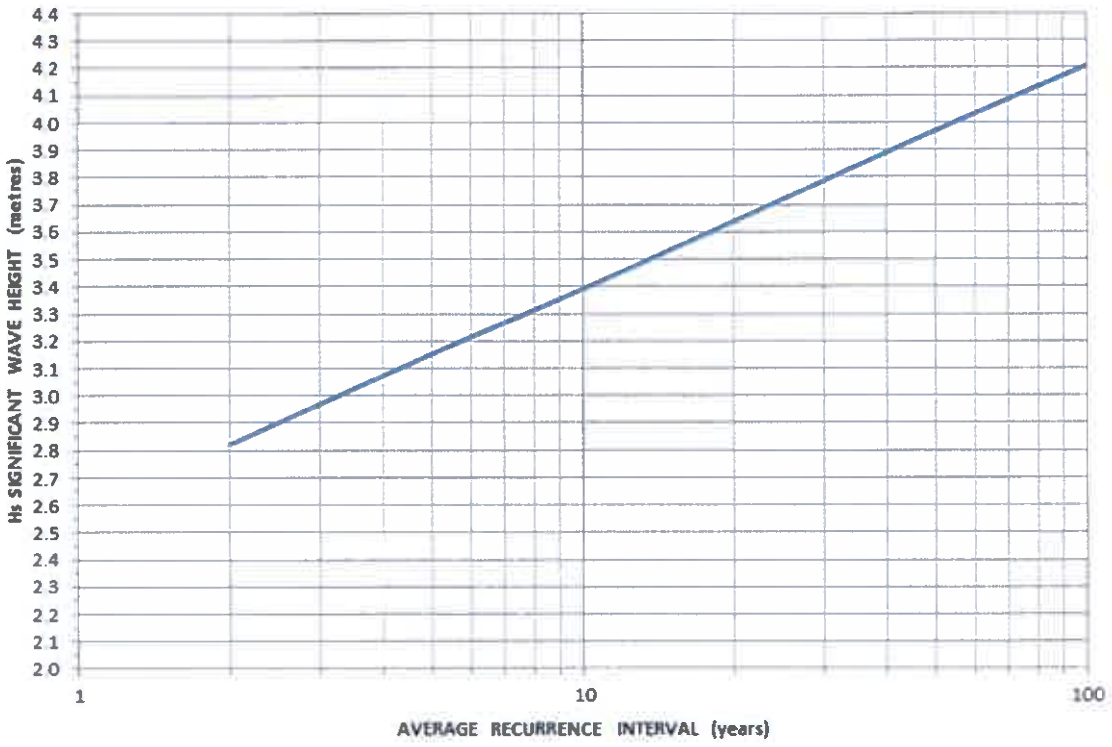


Figure 3-6 Relationship between Hs and ARI for the Gladstone Waverider site

Consequently, when undertaking numerical modelling of beach response to determine the effect of storm erosion on the Pacificus foreshore by a 100 year ARI storm tide event, the Hs value of 3.64 metres has been used in conjunction with the 100 year ARI storm tide level.

4. DESIGNATED EROSION PRONE AREAS

4.1 Concept of Erosion Prone Areas in Coastal Management

In the past, coastal development has occurred throughout Queensland within areas vulnerable to erosion. Such development often constitutes significant private and public investment. However coastal protection works for the built environment are costly, and can have adverse implications with regard to coastal resources and their values. Consequently, the concept of having undeveloped erosion buffers along the coastline is an intrinsic part of the coastal management policy of the Queensland State Government, and indeed has been since the Beach Protection Authority was established in 1968.

In July 2015, the Department of Environment and Heritage Protection (DEHP) declared new erosion prone areas for the Queensland coastline. The new erosion prone areas re-introduces climate change factors (including a sea level rise factor of 0.8 metres) in new ways; and updates the position of the state's shoreline. Erosion Prone Areas are widths of the Queensland coast considered as being vulnerable to tidal inundation and coastal erosion. The determination of an erosion prone area width at a particular location is based on considerations of:

- long-term erosion - where gradual on-going shoreline recession is occurring, typically this is due to a deficit of natural sediment supply, or gradual changes to nearshore bathymetry;
- short-term erosion - caused by extreme storm/cyclone events;
- dune scarp collapse - where slumping of a beach erosion scarp occurs following storm erosion events;
- added risk of erosion due to future climate change influences – due to permanent inundation of land by tidal water and/or the morphological response of the coast to a rise in sea levels; and
- an allowance for a 40% safety factor.

Statutory erosion prone areas have been declared by the DEHP under section 70 of the *Coastal Protection and Management Act 1995* (Coastal Act). Such declarations are made by referencing erosion prone area plans prepared for all local government areas throughout Queensland. These plans are used for development assessment purposes, and to inform the preparation of planning instruments such as planning schemes and regional plans under the *Sustainable Planning Act 2009*.

4.2 Definition of Erosion Prone Areas at the Pacificus Site

The statutory erosion prone area plan of relevance to the Pacificus development is *GLR3A Map 6*[1]. A copy of that plan and its related definitions and clarifications is included as Appendix C to this report. The definition of the Erosion Prone Area as it applies to coastal land in Queensland is provided on all erosion prone area plans, as well as on *GLR3A Map 6*, and is stated as follows:

1. *Erosion prone areas are deemed to exist over all tidal water to the extent of Queensland Coastal Waters and on all land adjacent to tidal water.*
2. *Erosion prone areas include areas subject to inundation by the highest astronomical tides (HAT) by the year 2100 or at risk from sea erosion.*
3. *On land adjacent to tidal water the landward boundary of the erosion prone area shall be defined by whichever of the following methods gives the greater erosion prone area width:*

[1] *Erosion Prone Area Gladstone Region Local Government Area - GLR3A*. Date of erosion prone declaration, 8th July 2015. Available online: https://www.ehp.qld.gov.au/coastal/development/assessment/pdf/gladstone-erosion-prone-area-plan.pdf.

a. *a line measured 40 metres landward of the plan position of the present day HAT level except where approved revetments exist in which case the line is measured 10 metres landward of the upper seaward edge of the revetment, irrespective of the presence of outcropping bedrock;*
b. *a line located by the linear distance shown on Table 1 and measured, unless specified otherwise, inland from:*
    i. *the seaward toe of the frontal dune (the seaward toe of the frontal dune is normally approximated by the seaward limit of terrestrial vegetation or, where this cannot be determined, the level of present day HAT); or*
    ii. *a straight line drawn across the mouth of a waterway between the alignment of the seaward toe of the frontal dune on either side of the mouth*
c. *the plan position of the level of HAT plus 0.8 m vertical elevation.*

Except:

i. *where the linear distance specified in 3b is less than 40 metres, in which case section 3a. does not apply and the erosion prone area width will be the greater of 3b and 3c; or*
ii. *where outcropping bedrock is present and no approved revetments exist, in which case the line is defined as being coincident with the most seaward bedrock outcrop at the plan position of present day HAT plus 0.8m; or*
iii. *in approved canals in which case the line of present day HAT applies, irrespective of the presence of approved revetments or outcropping bedrock.*

4. *Erosion prone areas defined in accordance with the above are deemed to exist throughout all the local government areas, irrespective of whether the entire local government area is depicted on erosion prone area plans for the area.*

As can be seen in the aerial view of Figure 1-2, the shoreline fronting the Pacificus development site consists of two quite different foreshore types, namely:

- a sandy beach along the western part of the frontage; and
- a headland at the eastern end of the sand beach.

When considering the susceptibility of the Pacificus development to erosion (as well as the required widths for Erosion Prone Areas) it is therefore necessary to consider each of these two foreshores separately.

4.3 Designated Erosion Prone Area on the Beach Foreshore

In summary, consideration of the above definitions in the context of the beach frontage of the proposed Pacificus development results in the width of the erosion prone area being the greater of:

- Criterion 1: The extent of foreshore inundation for an ocean water level of Highest Astronomical Tide (ie. HAT) as predicted to occur in the year 2100; or
- Criterion 2: 40 metres inland of the present-day line of HAT; or
- Criterion 3: The width designated in the relevant Table 1 which is also shown on DEHP's erosion prone area map *"GLR3A Map 6"*; which for the sandy beach fronting the proposed Pacificus development is 120 metres; or
- Criterion 4: Inland to the position of the line defined as HAT plus 0.8 metres. This is the projected HAT coastline at the year 2100.

Criterion 1 - The extent of foreshore inundation for an ocean water level of Highest Astronomical Tide (ie. HAT) as predicted to occur in the year 2100.

When assessing coastal hazards throughout Queensland, DEHP requires that an allowance be made for a 0.8 metre sea level rise at the year 2100. Consequently, Criterion 1 is effectively the same as Criterion 4.

As noted in Section 3.5.1, the level of HAT at the site is RL+2.11m AHD. Therefore, under this criterion 1, the Erosion Prone Area Width is defined as the extent of foreshore inundated by an ocean water level of RL+2.91m AHD.

However, the survey data shows that the front dune system currently has crest levels higher than RL+3.5m AHD. Consequently, the contour line of RL+2.91m AHD runs along the existing front face of the seaward-most dune for the entire length of the beach. That is, there will be no breaching of the dunes by an ocean water level of Highest Astronomical Tide (i.e. HAT) as predicted to occur in the year 2100. There is expected to be some inundation of Hummock Hill Island shorelines within Colosseum Inlet much further to the west of the Pacificus site where the local erosion prone area width is 400 metres, but such inundation will be localised and not penetrate into the swales behind this north-facing beach.

Criterion 2 - 40 metres inland of the present-day line of HAT.

The survey data indicates that the toe of the foredune along the beach is located at approximately RL+2.0m AHD – which is very close to that of HAT (i.e. RL+2.11m AHD).

It is therefore appropriate to adopt the Erosion Prone Area under Criterion 2 as extending approximately 40 metres inland from the toe of the foredune.

Criterion 3 - Width designated in the relevant Table 1 and shown on DEHP's erosion prone area map.

The relevant erosion prone area map is GLR3A Map 6, which designates a distance of 120 metres measured inland from the toe of the foredune.

Criterion 4 - Inland to the position of the line defined as HAT plus 0.8 metres.

This is effectively the same as Criterion 1. The contour of the line defined as HAT (RL+2.11m AHD) plus 0.8 metres – which is RL+2.91m – runs along the front face of the present-day foredune, only a few metres inland from the toe of this dune.

Consideration of the above criterion indicates that the greater distance is defined by Criterion 3; namely the Erosion Prone Area Width is defined as 120 metres, measured landward of the toe of the existing foredune located at the rear of the beach slope.

4.4 Designated Erosion Prone Area at the Headland

The erosion prone area map GLR3A Map 6 designates an erosion prone area width of 75 metres around the headland at the eastern end of the beach, but acknowledges that there may be bedrock present.

5. CALCULATION OF THE EROSION PRONE AREA WIDTHS

5.1 Introduction

Preceding sections of this report outlined the methodology, techniques and parameters appropriate for the calculation of the erosion prone area width fronting the proposed Pacificus development. In order to assess the adequacy of the designated erosion prone width, the following section presents results of calculations for the various components of the formula for calculating the width of the local Erosion Prone Area. As noted in Section 2, this formula is:

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

where....

E = Width of the Erosion Prone Area (*metres*)

N = Timeframe for consideration of long-term erosion trends (*years*)

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

C = Short-term erosion due to the design cyclone event (*metres*)

S = coastal recession due to sea level rise as a consequence of future climate change (metres)

F = Factor of Safety to account for uncertainties in the techniques

D = Component to allow for the collapse of the erosion scarp (*metres*)

Specific values for each of these components at the Pacificus foreshore is presented in the following discussions.

5.2 Sandy Foreshore

5.2.1 Long-term Erosion (NxR)

As discussed in the preceding Section 3.3, historical aerial photographs between the years of 1959 and 2014 have been compared so as to identify any long-term change in the location of the seaward edge of the vegetation line (which from observations made during site visits is closely aligned with the toe of the low foredune).

It is evident that the north-west foreshore of Hummock Hill Island between the rocky headland and Tiber Point experiences long-term accretion processes. This on-going background accretion on the Pacificus foreshore can be masked in the historical record of shoreline position by severe episodic erosion events caused by storms or cyclones. The long-term processes driving foreshore accretion act to naturally renourish the foreshore following such short-term erosion events.

Nevertheless, when considering the value of R in the equation for the width of the erosion prone area, a value of zero is conservatively applied. Over a 50 year planning period this results in the following:

0 metres/year x 50 years = 0 metres

Adopting a zero value for R along this accreting foreshore is in keeping with past EHP determinations on accreting sections of Queensland's coastline. However this is a very conservative approach since, when used in conjunction with projected climate change to determine Erosion Prone Area Width requirements at the end of the 50 year planning horizon, it discounts any seaward repositioning of the accreting shoreline whatsoever.

This is despite the fact that the analysis of historical aerial photographs (refer Section 3.3) shows that the Pacificus foreshore has accreted at rates of around 0.9 metres / year.

5.2.2 Short-term Erosion (C)

As discussed in Section 2.3, the SBEACH proprietary mathematical model has been used to predict the dynamic response of the beach to a present-day 100 year ARI storm event. The parameters that constitute such an event are as follows:

- storm tide level corresponding to a 100 year ARI which as noted in is RL+2.95m AHD; occurring in conjunction with
- the wave characteristics for a moderate storm (ie. the 20-year Average Recurrence Interval wave event) which is discussed in Section 3.6.

An allowance for wave setup is not added to the peak storm tide level because the SBEACH model calculates setup during each time-step when it works through the calculations as the storm develops.

An important consideration when modelling how such an event will affect a sandy foreshore is the timeframe over which the storm tide will prevail on the foreshore. Consequently, when preparing inputs to the SBEACH model, very careful consideration has been given to defining the storm tide hydrograph. The hydrograph depicts how the ocean water level rises to the peak of the 100 year ARI storm tide and then how it falls.

When setting up the storm tide hydrograph for the SBEACH model, the form of the storm surge measured for TC Yasi at Clump Point on 2nd and 3rd February 2011 has been used (Department of Science, Information Technology, Innovation and the Arts, 2012). This measured storm surge characteristic was then numerically combined with an average spring tide phase for Hummock Hill Island in such a way as the combined surge and spring tide resulted in a peak storm tide level of RL+2.95m AHD, which is the 100 year ARI storm tide under present-day climate.

A number of scenarios were tested for combining the peak surge and the high spring tides to determine the most adverse storm tide hydrograph with respect to local beach erosion. That is, separate hydrographs were replicated with the peak storm surge occurring so as to coincide with either a high spring tide, a low spring tide, or at mid-tide. The resulting storm tide hydrographs for each of these three possible circumstances are shown in Figure 5-1.

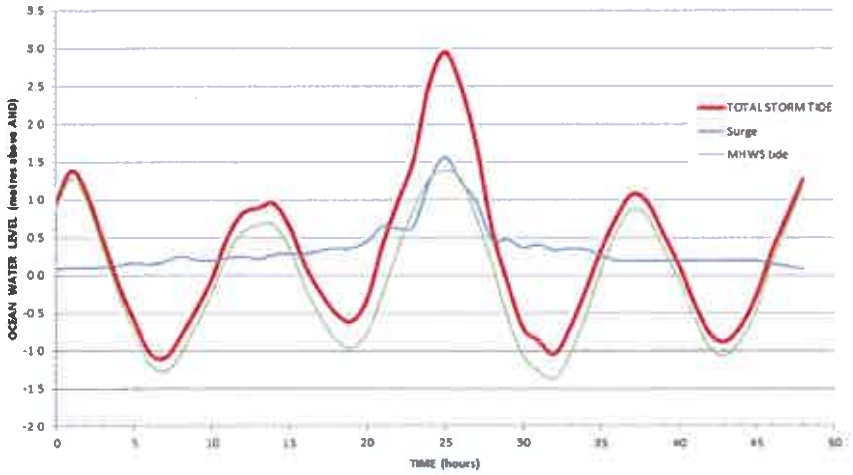
The most adverse effect on beach erosion was found to occur for the scenario where the peak of the surge occurs at mid-tide. That critical storm tide hydrograph is shown on Figure 5-1(c).

It was evident from the modelling using the storm tide hydrograph of Figure 5-1(c) that the high spring tide that precedes the arrival of the peak surge erodes the lower slope of the beach, facilitating a slightly deeper approach bed and eroded beach slope for the subsequent arrival of the peak storm tide and waves. It also resulted in a longer sustained period of high ocean water levels around the time of the peak surge.

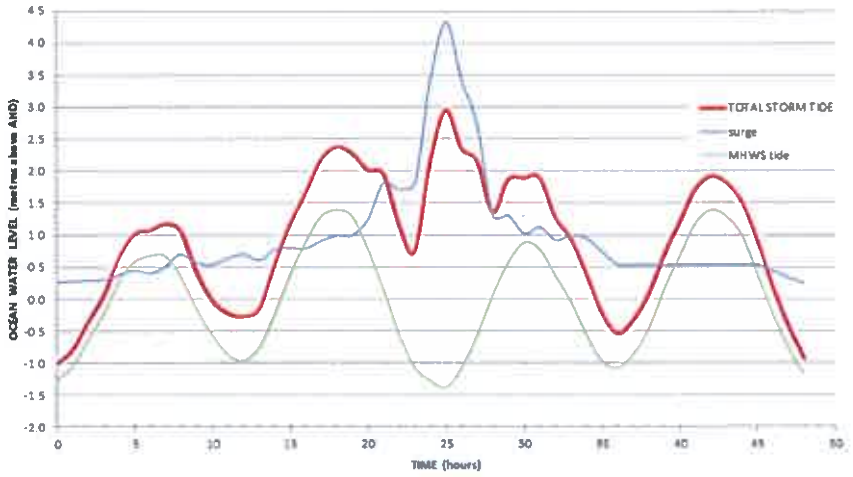
As discussed previously, the existing beach has somewhat lower dune crests and narrower intertidal approaches towards the eastern end of the Pacificus foreshore than at its western end. When considering the extent of erosion of the shoreline for the project, the conservative assumption is made that the characteristics of the eastern end of the beach are representative of the entire Pacificus foreshore.

When the storm tide hydrograph and cyclone waves are applied to the beach having the sand characteristics discussed in Section 3.4, the resulting beach response is shown on Figure 5-2.

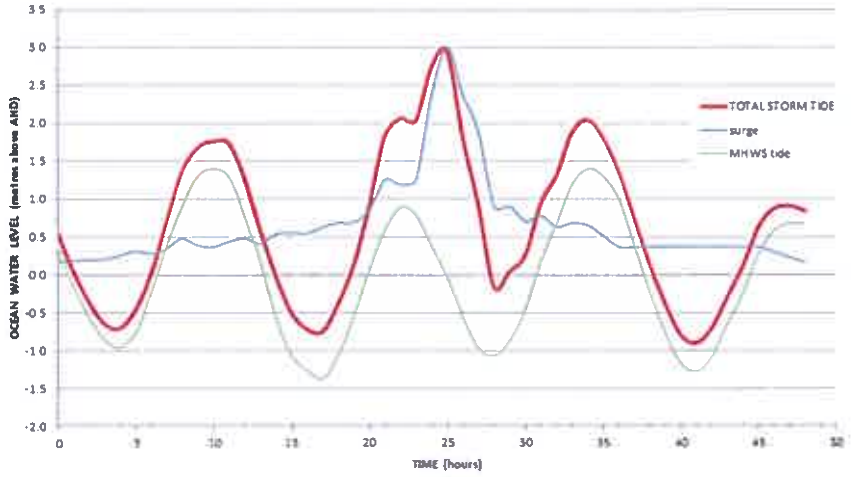
This indicates that the pre-storm profile is predicted to be eroded some 40 metres inland. Therefore the short-term erosion term (i.e. the value of S in the equation for the width of the Erosion Prone Area) is 40 metres.



(a) Peak of storm surge hydrograph coincides with high tide of a Spring Tide cycle



(b) Peak of storm surge hydrograph coincides with low tide of a Spring Tide cycle



(c) Peak of storm surge hydrograph occurs at mid-tide of a Spring Tide cycle

Figure 5-1 Storm Tide Hydrograph Scenarios considered for SBEACH modelling

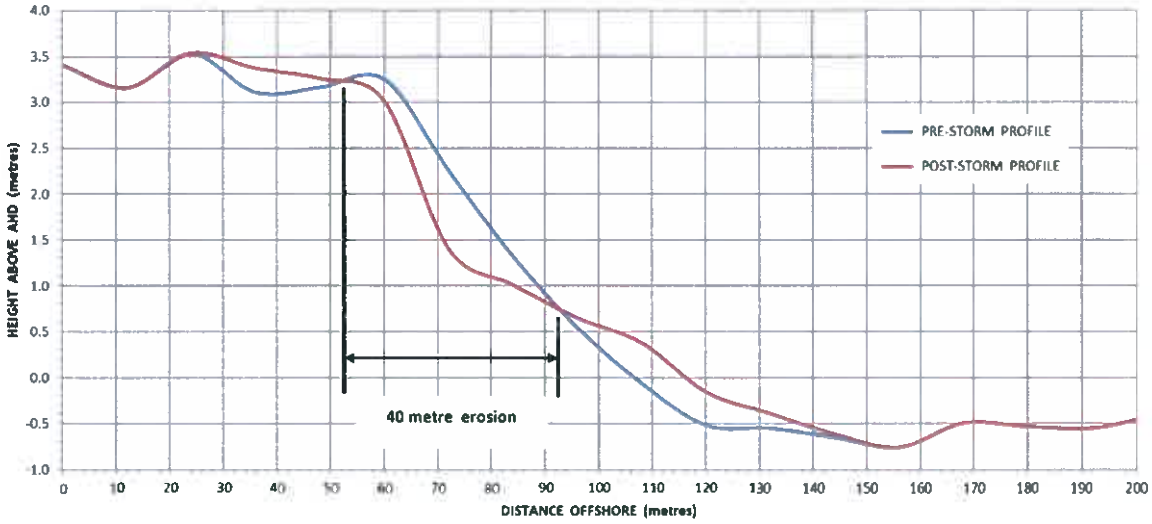


Figure 5-2 Predicted beach response to the 100 year ARI event

When setting up the SBEACH model, the stable slope for the dune scarp has been set as 1 vertical to 2.5 horizontal. Consequently, the value of C calculated using SBEACH also includes the effects of dune scarp collapse (i.e. the parameter D in the erosion prone area width formula).

5.2.3 Effects of Sea Level Rise (S)

The widely used Bruun Rule is not an appropriate method for predicting the recession of a foreshore due to sea level rise where that foreshore consists of a beach having a wide intertidal region immediately offshore.

An alternative method has instead been adopted wherein the existing form of the upper beach profile is assumed to be maintained in relation to the average sea level in front of it. It effectively assumes that the rate of any expected sea level rise as a consequence of climate change will be very gradual, and that the timescales associated with the coastal processes shaping the nearshore and foreshore regions will keep pace with the gradual sea level rise. The conceptual representation for calculating the recession of a perched beach with wide intertidal flats in front (ie. for a classification type B+SF) is shown in Figure 5-3.

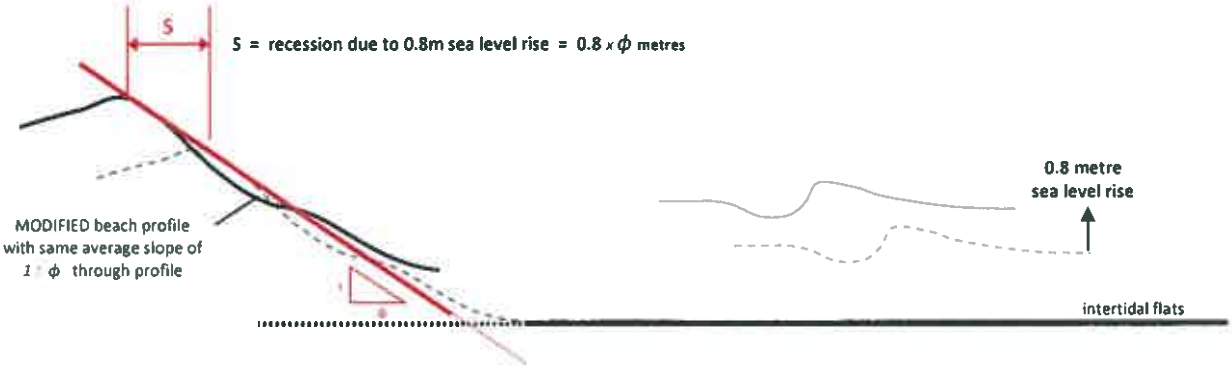
As discussed previously, the beach has lower dune crests and narrower intertidal approaches towards the eastern end of the Pacificus foreshore than at its western end. When considering the effect of sea level rise on the shoreline for the project, a conservative assumption is again made that the characteristics of the eastern end of the beach are representative of the entire Pacificus foreshore.

For the purpose of this calculation, the beach slope of the Pacificus foreshore is taken to be from the toe of the slope on the intertidal flats at RL-0.5m up to the crest of the upper beach (at around RL+3.5m AHD). Given that this foreshore slope is 1 vertical : 21.5 horizontal, and the expected sea level rise is 0.8m, the beach is predicted to move inland as a consequence of this sea level rise by:

0.8metres x 21.5 = 17 metres

Consequently, the calculated recession of the shoreline at the Pacificus site as a result of future sea level rise (the value S in the equation for the Erosion Prone Area width) is deemed to be 17 metres.

(a) Beach characteristics for present-day climate scenario



(b) Beach characteristics for future climate scenario – with 0.8metre sea level rise

Figure 5-3 Calculating recession of a perched beach due to sea level rise

5.2.4 Dune Scarp Collapse (D)

Figure 5-2 shows the predicted profile of the beach following the 100 year ARI storm event. As discussed in Section 2.6, an allowance for a collapsed sand slope of approximately 1 in 2.5 is typically made from the toe of the erosion scarp. The SBEACH model considers profile changes at the top of the beach slope. Consequently, the value of D is included in the calculated value for C.

Therefore, to avoid considering this phenomenon twice when calculating the Erosion Prone Area width, the value of D in the equation needs to be 0 metres. This is a conservative approach since the adopted value of D is included within that for C – and is therefore multiplied by the 1.4 factor of safety when calculating the overall erosion prone area width. Whereas in fact the formula is such that it ought not to have that factor of safety applied.

5.2.5 Erosion Prone Area Width (E)

The various contributions to the determination of the Erosion Prone Area width can therefore be collated as follows:

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

where....

N = 50 (*years*)

R = 0 (*metres/year*)

C = 40 (*metres*)

S = 17 (metres)

F = 0.4

D = 0 (*metres*)

therefore... E = 79.8 metres, say 80 metres

This should be measured inland from the line defining the toe of the foredune along the Pacificus foreshore. As discussed in Section 3.2, the toe of the foredune is basically located along the line of HAT (ie. presently RL+2.11m AHD).

It is recommended that this 80 metre width be adopted as the Erosion Prone Area Width for planning the Pacificus development – superseding the currently designated 120 metre width indicated on GLR3A Map 6. The position of this line with regard to the site is shown in Appendix D to this report.

5.3 Rocky Headland

5.3.1 Presence of Bedrock

At locations where there is bedrock within the foreshore (such as that around the headland at the eastern end of the beach fronting the Pacificus development) other considerations than those which apply to a sandy foreshore need to be taken into account when designating erosion prone areas. As noted in the definitions of erosion prone areas on the DEHP maps, an exception applies in cases:

> *.....where outcropping bedrock is present and no approved revetments exist, in which case the line is defined as being coincident with the most seaward bedrock outcrop at the plan position of present day HAT plus 0.8m.*

Site inspections indicate that there is indeed bedrock present on the seaward face of the headland.

The headland itself is some 18 metres high, rising very steeply from the intertidal area at its base. The seaward slopes of the headland consist of exposed bedrock and some areas of thin topsoil over the bedrock which sustains grasses and low bushes. Crevices within the sloping bedrock face hold thicker layers of topsoil and provide an opportunity for small trees and large bushes to prevail.

Therefore, the exclusion offered for the presence of bedrock applies when defining the erosion prone area around the high rocky headland at the eastern end of the beach.

5.3.2 Erosion Prone Area Width (E)

As discussed above, the erosion prone area is confined to the plan position of present day HAT plus 0.8m; which is the line defined by the RL+2.91m AHD contour line along the rocky seaward face of the headland.

It is recommended that this line be adopted as the landward extent of the Erosion Prone Area around the headland when planning the Pacificus development – superseding the currently designated 75 metre width indicated on GLR3A Map 6. The position of this line with regard to the site is shown in Appendix D to this report.

6. CONCLUSIONS

A site-specific analysis of the currently designated erosion prone area widths along the proposed Pacificus development has been completed. The analysis uses the techniques required by Queensland's Department of Environment and Heritage in its guidelines "*Coastal hazard technical guide : Determining coastal hazards*".

As a consequence of the analysis, it is recommended that:

- 80 metres be adopted as the Erosion Prone Area Width along the sand beach frontage when planning the Pacificus development – superseding the currently designated 120 metre width indicated on GLR3A Map 6.
- the erosion prone area to the plan position of present day HAT plus 0.8m; which is the line defined by the RL+2.91m AHD contour line along the rocky seaward face of the headland – superseding the currently designated 75 metre width indicated on GLR3A Map 6.

The locations of these widths along the Pacificus foreshore frontage is shown in Appendix D to this report.

7. REFERENCES

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APPENDIX A PACIFICUS CONCEPT PLAN

LEGEND

HEADLAND RESORT PRECINCT
- H1 Headland Resort Hotel
- H2 Headland Holiday Homes
- H3 Headland Holiday Apartments
- H4 Headland Holiday Cottages
- H5 Foreshore Homes

VILLAGE PRECINCT
- V1 Life Saving Club
- V2 Tourist Centre
  - Motel
  - Village Apartments
  - Campground
- V3 Village Retail and Commercial
- V4 Community Centre

GOLF & BEACH RESORT PRECINCT
- G1 Beachfront Tourist Hotel
- G2 Beachfront Villas
- G3 Beachfront Apartments
- G4 Golf Course Villas
- G5 Golf Course Cottages
- G6 Golf Course Apartments
- G7 Golf Clubhouse

OCEAN VIEW RESORT PRECINCT
- O1 Spa Retreat
- O2 Ocean View Villas

COLOSSEUM PRECINCT
- B1 Bushland Holiday Villas
- B2 Colosseum Village Apartments
- B3 Colosseum Villas
- B4 Colosseum Village
  - Tourist Information Centre
  - Indigenous Cultural Centre
  - Native Plant Nursery
  - Convenience Retail
  - Eco Design Display Centre
- B5 Terrestrial & Marine Centre
- B6 Boat Ramp & Boat Storage
- B7 Airstrip
- B8 Island Services

EATON PLACE PTY LTD

PACIFICUS TOURISM PROJECT

MP-001-F CONCEPT MASTER PLAN

SCALE 1:20000 @ A3

APPROVED FOR ISSUE B1

PROJECT NO: EATO0001

ML Design

APPENDIX B SAND GRADING ANALYSIS

Trilab
Soil Rock Calibration

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346A Bilsen Road,
Geebung
QLD 4034
Ph: +61 7 3265 5656

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2 Kimmer Place,
Queens Park
WA 6107
Ph: +61 8 9258 8323

PARTICLE SIZE DISTRIBUTION TEST REPORT

Test Method: AS 1289 3.6.1, 2.1.1

Client	Water Technology	**Report No.**	16040009-G
Address	PO Box 323 Mount Waverley Vic 3149	**Report Date**	06/04/2016
Project	Hummock Hill Island Development		

Sample No.	16040009	16040010	-	-	-	-	-
Test Date	5/04/2016	5/04/2016	-	-	-	-	-
Client ID	HHI01	HHI02	-	-	-	-	-
Depth (m)	0.30	0.30	-	-	-	-	-
Moisture (%)	2.7	3.1	-	-	-	-	-
AS SIEVE SIZE (mm)	**PERCENT PASSING**						
2.80			-	-	-	-	-
2.36			-	-	-	-	-
2.00			-	-	-	-	-
1.40			-	-	-	-	-
1.18			-	-	-	-	-
1.00			-	-	-	-	-
0.710			-	-	-	-	-
0.600			-	-	-	-	-
0.500		100	-	-	-	-	-
0.425	100	99	-	-	-	-	-
0.300	92	83	-	-	-	-	-
0.250	78	64	-	-	-	-	-
0.180	37	31	-	-	-	-	-
0.150	11	11	-	-	-	-	-
0.075	0	0	-	-	-	-	-

NOTES/REMARKS:

Sample/s supplied by the client

Accredited for compliance with ISO/IEC 17025.
The results of the tests, calibrations, and/or measurements included in this document are traceable to Australian/National Standards.

Tested at Trilab Brisbane Laboratory.

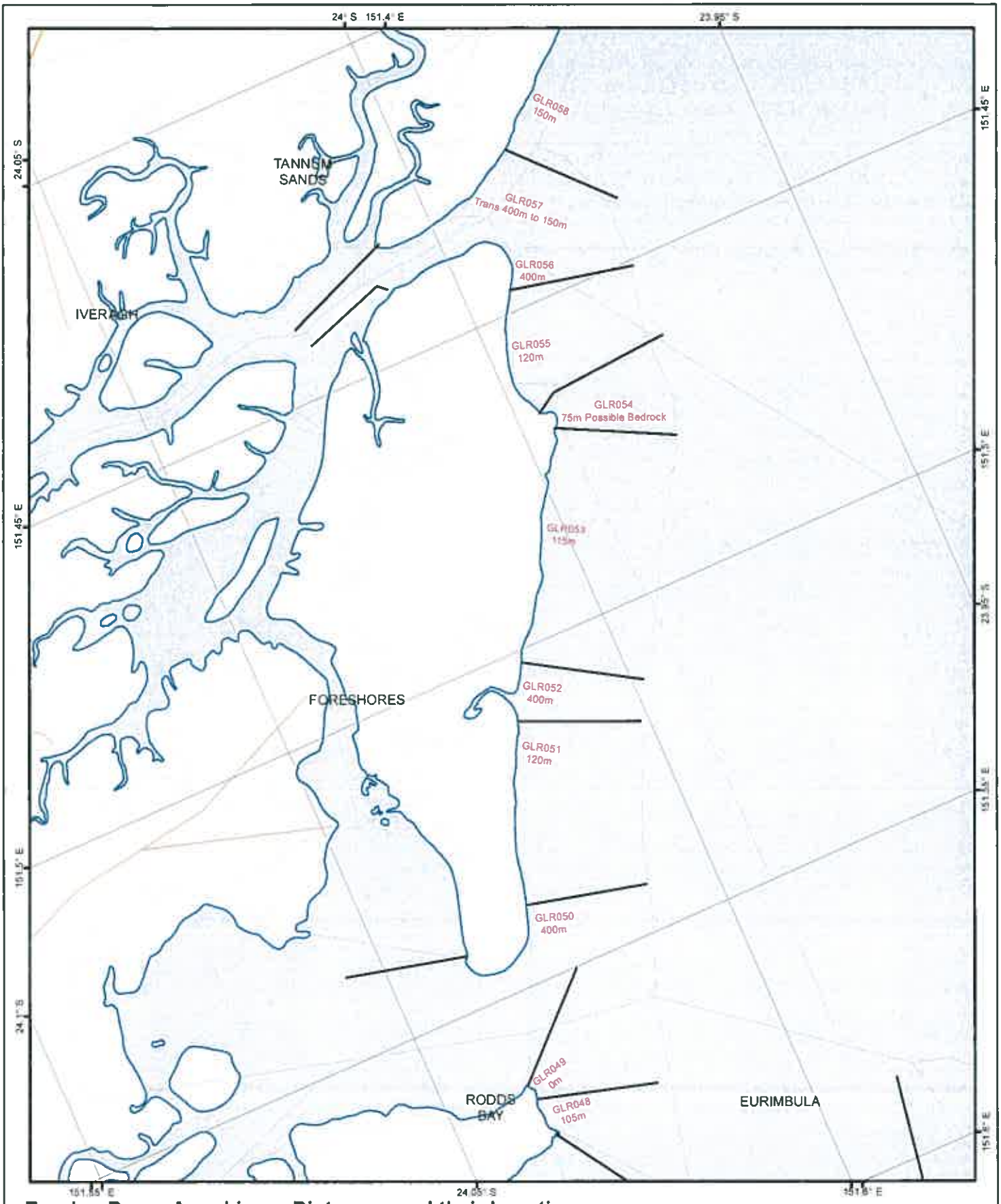
Authorised Signatory

C. Channon

NATA TECHNICAL COMPETENCE

Laboratory No. 9926

APPENDIX C CURRENTLY DESIGNATED EROSION PRONE AREA MAP



Erosion Prone Area Linear Distances and their Locations for Gladstone Region Local Government Area

GLR3A Map 6

Projection: Albers. Datum: GDA 1994.

Note:
This map is a representation of the erosion prone area segment locations provided in Table 1 and should be used as a guide only.

Disclaimer
Whilst every care is taken to ensure the accuracy of this product the Department of Environment and Heritage Protection makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which you may incur as a result of the product being inaccurate or incomplete in any way and for any reason.

GIR006 Segment number and linear 100m distance for erosion prone area

Erosion Prone Area segment start/stop location

Roads

Queensland coast

Cadastral boundaries

0 0.5 1 2 3 4
Kilometres

APPENDIX D RECOMMENDED EROSION PRONE AREA WIDTHS

Legend

- Landward Extent of 80m Wide Erosion Prone Area
- Landward Extent of Erosion Prone Area (2.91m AHD)
- Toe of Frontal Dune (2.1m AHD)
- DCDB Cadastral Parcels

Note: Mapping based on desktop review only for specific scope.
DCDB supplied by Department of Natural Resources and Mines.
2014 imagery supplied by Department of Natural Resources and Mines
Ground height data supplied by the Department of Environment and Resource management. Digital Elevation Model (DEM) derived from 2009 Queensland Lidar (Gladstone Project) as one metre grid.

N

Scale 1:7,000 (A3)

0 50 100 200 300

Meters

Map Projection: Map Grid of Australia 1994 Zone 56

Hummock Hill Island

Erosion Prone Areas Analysis

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Project No. 16024
21 April 2016