

HOOK ISLAND ECO LODGE

HOOK ISLAND ECO RESORT OPERATIONAL MANAGEMENT PLAN

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1 Executive Summary

This Hook Island Eco Lodge Operational Management Plan (OMP) has been prepared to accompany the Hook Island Eco Lodge Master Plan and inform the logistical parameters and intentions expected to occur as part of the Hook Island Eco Lodge.

The Hook Island Eco Lodge OMP outlines the processes to be undertaken by Hook Island Eco Lodge Pty Ltd as they relate to the orderly development of the resort.

This operational management plan outlines the following:

- Hook Island Eco Lodge management procedures, including booking, accommodation management and staffing requirements;
- Hook Island Eco Lodge tourist facilities and services; and
- Guest and visitor access options to and from the island.

2 Hook Island Eco Lodge Management Procedures

This section of the Hook Island Eco Lodge Operational Management Plan outlines the management procedures to be undertake for the Hook Island Eco Lodge.

2.1 Bookings

Both overnight guests and day-visitors to the Hook Island Eco Lodge will be able to book their stay through an online booking platform, which will be branded as Hook Island Eco Lodge. The booking system will outline rates, resort capacity, availability, information regarding transfers, food and drink and linen arrangements. Packaged options, including flights, transfers and accommodation will also be included for ease. Day-visitors will be able to purchase a lunch and/or dinner package with ferry transfer included.

2.2 Information Sessions

Information sessions will be provided for all guests and visitors to Hook Island Eco Lodge. These information sessions will be completed prior to arrival through stay confirmations and communication, whilst on the ferry and further once arrived, and will include an explanation to all guests regarding Hook Island and expectations of visitors and guests. The information session will further reiterate the information contained on the Hook Island Eco Lodge booking website, which guests will agree to and accept prior to bookings being confirmed. The major concern of operating a resort in a fragile natural environment is how to protect it from impacts. Ecotourism or sustainable tourism becomes the primary focus of all operations. Hook Island Eco Lodge understands keeping the island healthy and beautiful is very important to visitors as well as the business.

Prior to arrival, guests and visitors will be provided with sustainability-focused information sessions. These will cover the ecological footprint of the island, conservation efforts, and how guests can minimize their impact. Sessions will highlight waste reduction, water conservation, and eco-friendly practices expected from each visitor.

Safety information, relating to emergency procedures, will also be provided.

2.3 Arrival at Hook Island Eco Lodge

Upon arriving at Hook Island Eco Lodge (transfer details outlined in Section 4 of this OMP), overnight guests will be met by resort staff, will be provided with a quick tour of the facilities and a briefing session before being escorted to their accommodation. Check in will be both digital and face to face on the ferry and at arrival. A purpose-built building (Arrival Pavilion) will be accessible to all arriving guests to ensure all necessary information and documentation is complete.

Day guests will also be briefed on the facilities available to them and the details of their purchased dining package.

2.4 Hook Island Eco Lodge Staff

The experienced and very-well trained staff on the island will contribute to the servicing capacity of Hook Island Eco Lodge. There will be sufficient staff to allow guests to thoroughly relax and experience their co-existence with nature and their own wellbeing.

Once operational the resort will be serviced by 30 overnight staff members. They will be assisted during the day by up to 20 dayworkers who will live in Airlie Beach and the surrounds and will arrive by ferry. The 30 overnight staff will work on a four day on, three days off weekly roster and will be accommodated on their 3 days off at Hermitage Drive in Airlie Beach in our soon-to-constructed staff base camp.

The Daily Operations roles are shown in Appendix A

3 Hook Island Eco Lodge Guest Facilities and Services

This section of the Hook Island Eco Lodge OMP outlines the facilities and services proposed to be provided to guests at the island.

3.1 Food and Drink

Guests and visitors to Hook Island Eco Lodge will be able to experience high quality food and drink that will have nature, health and wellbeing at its core. Purpose built facilities will offer options throughout the day and into the evening providing the before mentioned cuisine style.

Hook Island Restaurants and Bar

The main dining area at the resort is the restaurant in the Main Hub building on Main Beach. Breakfast, lunch and dinner will all be served from here. The Main Hub building will also have a bar and a swimming pool.

There will also be a smaller, premium Clifftop Restaurant at Headlands. This will seat thirty people and will only serve dinner.

Utilising space as efficiently as possible and to keep waste and energy usage at a minimum on the island, Hook Island Eco Lodge is building a commercial kitchen in our staff base camp at Airlie Beach. Most of the food preparation will be done at Airlie Beach thus minimising water and energy usage for food preparation on Hook Island.

Food will be prepared at Airlie Beach and then shipped across on a barge and with our day staff on the first ferry from Airlie Beach. The barge will service the island twice per week and will transport most of the stock items for the resort in specially designed food containers. This will be supplemented by staff taking some items across in specially designed food containers on the first Airlie Beach ferry. The menus have been skilfully designed by Epochal Hotels Executive Chef Adam Rust with the unique island challenges and characteristics in mind and the result will be world-class in sustainable cooking.

3.2 Activities at Hook Island Eco Lodge

Hook Island Eco Lodge intends to provide low-impact leisure activities on and around the designated development areas. These are likely to include:

- Water sports – swimming, snorkelling, kayaking, stand up paddle boarding;
- Tours – kayaking and walking;
- Leisure – ball sports (such as beach volleyball and beach tennis), beach equipment including umbrellas, lounges, bicycles etc
- Health & Wellness – yoga, healing, spa treatments etc
- Kids adventure area – play structures, games etc
- Adults Lounge – Virtual golf, chess etc
- Sustainability tours - a guided tour around the Resort to learn about the ways we are minimising our ecological impact through our operations and how we aspire to remain sustainable with our natural resources.
-

4 Hook Island Eco Lodge Access

This section outlines the access and transfer strategy proposed.

Overnight guests and day-visitors will arrive predominantly by Ferry from Airlie Beach and Hamilton Island. Cruise Whitsundays will facilitate 4 arrivals per day. We will also have a very minimal number of guests arriving by helicopter and there are 12 mooring points that guests can book should they arrive by private yacht.

4.1 Arrival at Whitsundays Airport Proserpine.

Guests who choose to fly into the Whitsundays airport at Proserpine, will be met by Hook Island Eco Lodge staff at the airport and will be greeted at a Hook Island Eco Lodge counter at arrivals. They will then be transported to Port of Airlie in Airlie Beach for their ferry transfer to Hook Island.

4.2 Departure from Airlie Beach

Guests of Hook Island Eco Lodge will be able to depart from Port of Airlie, Airlie Beach. The following transport options are available for guests to arrive at Port of Airlie:

- Private vehicle (expected to be minimal due to the tourist nature);
- Public and active transport;
- Ride share/shuttle services provided from Whitsundays airport or local hotels and pick up points as part of their package deals; and
- Helicopter (on limited private occasion and medical emergency evacuation).

4.3 Transfers To and From Hook Island Eco Lodge

Hook Island Eco Lodge guests will have various options for transfers to and from the Island. Primarily Cruise Whitsundays are looking to operate a ferry service from Airlie Beach and also from Hamilton Island.

A meeting point will be provided at Port of Airlie, at Airlie Beach and from Hamilton Island Marina for guests to commence their journey to Hook Island Eco Lodge.

Visitors will also be able to visit the Hook Island Eco Lodge with their own private or hired vessels. 12 moorings have been installed to allow for private mooring, which can be booked and rented from the Hook Island Eco Lodge website.

Access to the island will be provided via the newly constructed jetty, which is a matter of weeks away from being finished and will be ready for use at the opening date of Hook Island Eco Lodge.

There will be four ferry transfers per day, to align with check-in and check-out times as well as lunch and dinner services.

A timetable of ferry arrival and departure times will be implemented to support guests, staff and product to and from Hook Island Eco Lodge. See Appendix B.

The helipad will be upgraded, on the same existing spot as was previously utilised in the old resort, as an alternative mode of private transport to and from the island. This will also act as an emergency option for travel to the mainland, if ever required for a rapid response and evacuation.

5 Hook Island Operational Sustainability – Amenities & Services

5.1 Water Supply

Water demands have been estimated based on the three categories of visitors, as well as water usage data provided by Luxury Frontiers for similar eco-resorts. The estimated water demand for each visitor (Equivalent Person) type is presented in Table 4.

Table 4 – Estimated Water Demand for Each Visitor

Visitor Type	Estimated L/EP/Day Water Demand						Recycled Greywater
	Shower 34%	Toilet 26%	Kitchen 13%	Laundry 22%	Other 5%	Total 100%	
Overnight	150	60	36	36	15	297	96
Staff	100	60	36	36	15	247	96
Day Visitor	25	22.5	24	6	15	92.5	28.5

Flow rates have been estimated with consideration to the following assumptions:

- All showers will use water efficient shower heads with a maximum flow rate of 5L / min

- o Overnight guests will shower on average three times a day with each shower being 10 minutes ***
- o Staff will shower on average twice a day with each shower being 10 minutes
- o Day visitors will shower at most once a day for a total of 5 minutes
- Toilets will be dual flush and water efficient, with an average flush volume of 7.5 L
 - o Overnight guests and staff will use toilet facilities on average eight times a day
 - o Day visitors will use toilet facilities on average three times a day
- All meals will be prepared using the onsite restaurants and washing handled by kitchen facilities, with an average water demand of 12 L per meal**.
- o Overnight guests and staff will on average consume three meals per day
- o Day visitors will on average consume two meals per day
- Majority of washing will occur offsite, with a laundry service provided for overnight guests and staff.
- Irrigation of landscape vegetation will use rainwater or alternative water supply
- Grey water produced by showers and laundry can be harvested and reused to reduce water demand
 - o Up to 96L per person each day for overnight guests and staff
 - o Up to 28.5L per person for day visitors

To meet potable water demands, the following water supply resources have been investigated:

- Rainwater harvesting and treatment
- Bore water extraction
- Sea water desalination

It is proposed that desalination be used as the primary source for potable water supply. It is anticipated that the seawater intake will be performed through a beach well located near the back of house facilities at Stingray Bay, limiting the distance to pump seawater to the desalination plant.

*** An estimate of 12L of water per meal has been used as a standard for the purposes of calculating Water Demand. In practice, we expect this usage to be considerably lower as almost all of the food preparation will be undertaken at the staff base camp in Airlie Beach, thus reducing the water demand for food preparation.*

**** The assumptions around water demand are conservative and we expect to operate with less water usage. Three x 10 minute showers, for example, is very likely too much.*

5.2 Wastewater Management

Wastewater service planning for Hook Island has been prepared generally in accordance with the wastewater management hierarchy as per section 14 of the Environmental Protection (Water and Wetland Biodiversity) Policy 2019. To reduce the volume of wastewater generated on island, the resort will incorporate the following measures:

- All showers will use water efficient shower heads.
- Toilets will be dual flush and water efficient.

- Majority of washing will occur offsite, with a laundry service provided for overnight guests and staff.
- Irrigation of landscape vegetation will use rainwater or treated effluent.
- Greywater produced by showers and laundry are harvested and reused to reduce water demand.

Collected wastewater will be received by the on-island Membrane Bioreactor treatment plant located near the back of house amenities in Stingray Bay. Disposal of effluent will be via land irrigation. We will be using a Micro Auto Gasification System (MAGS) for our waste management system (as described in Section 5.3 below), and the MAGS will be used to manage and dispose of the sludge cake by-product from our wastewater treatment.

5.3 Waste Management

We will be using a Micro Auto Gasification System (MAGS) for our waste management system. MAGS uses patented technology, Auto Gasification, to thermally break down waste and transform it into a solid carbon material (bio-char) and a synthesis gas (syngas). The syngas becomes the main fuel source for MAGS, which eliminates the need for external energy sources and renders the appliance virtually self-sustainable. Put simply, MAGS gasifies - or “cooks” - waste, reducing it by more than 95 percent in volume to bio-char and a hot gas (syngas). The hot gas re-circulates through the appliance to maintain the elevated temperature needed to continue the gasification process, hence Auto Gasification.

The bio char has excellent water and nutrient retention properties when combined with soil as an additive and will be used as part of our landscape management plan as well as to help fertilise our herb garden and other appropriate green areas.

As the resort is developed, bin facilities will be located throughout the resort, with the ability to separate organic, compostable waste from mainstream, commercial waste items. Compostable waste will be able to be maintained on Hook Island, with a dedicated area provided.

While there are procedures in place to manage waste, there will be an expectation that guests, visitors and staff alike will participate in minimising waste, and we will include information on the importance of sustainable waste management practices in the Explorers Lounge.

More details on our Waste Management Plan can be found [here](#)

5.4 Energy Supply

The island will operate an off-grid 230/400V 50Hz power network designed to the same Australian Standards a typical mainland resort would be. The power station in this instance, generator and battery inverter, will be responsible for voltage and frequency control of the power network and can change operating modes appropriately based on which plant is in primary operation.

An energy compound in the utility areas will house all the core electrical equipment such as:

- Microgrid control system
- Generator
- Fuel storage
- Central battery
- Generation main switchboard

It is expected the generation main switchboard (as part of the base infrastructure) will AC couple the battery, generator, any future generation sources (such as fuel cell) and the island main distribution board. The island main distribution board will then distribute multiple submains throughout based on building design loads and the connected generation. All low voltage infrastructure will need to be designed in consideration to the decentralised generation as well as standard load flow analysis, fault analysis and voltage control. The supply voltage at every location in the network under all scenarios should be within network standards.

It is assumed at this point in time, the island could accommodate a low voltage reticulation system and the requirement for high voltage transformers and similar is not required due to the added complexity.

Resilience

The island fuel storage will nominally provide at least 4 weeks of supply assuming the renewable microgrid isn't operational. A diesel tank of at least 30kL will be provided to achieve 4 weeks supply.

5.5 Water Conservation

Water is a precious commodity in Australia and limiting the amount of water required in the resort is very important, and every effort will be made to conserve it in day-to-day operations through several initiatives. These include:

- Using recycled wastewater on our gardens.
- Doing regular maintenance checks on all taps.
- Fitting showers and toilets with water-saving technology.
- Giving guests the option to reuse towels and bedding for a second day, reducing the water used in washing.
- Encouraging staff and guests to reduce their shower time.
- Preparing food at Airlie Beach thus reducing the amount of water required on island for cooking and washing food and cooking utensils
- Doing the bulk of the resort laundry at Airlie Beach

5.6 Energy Saving

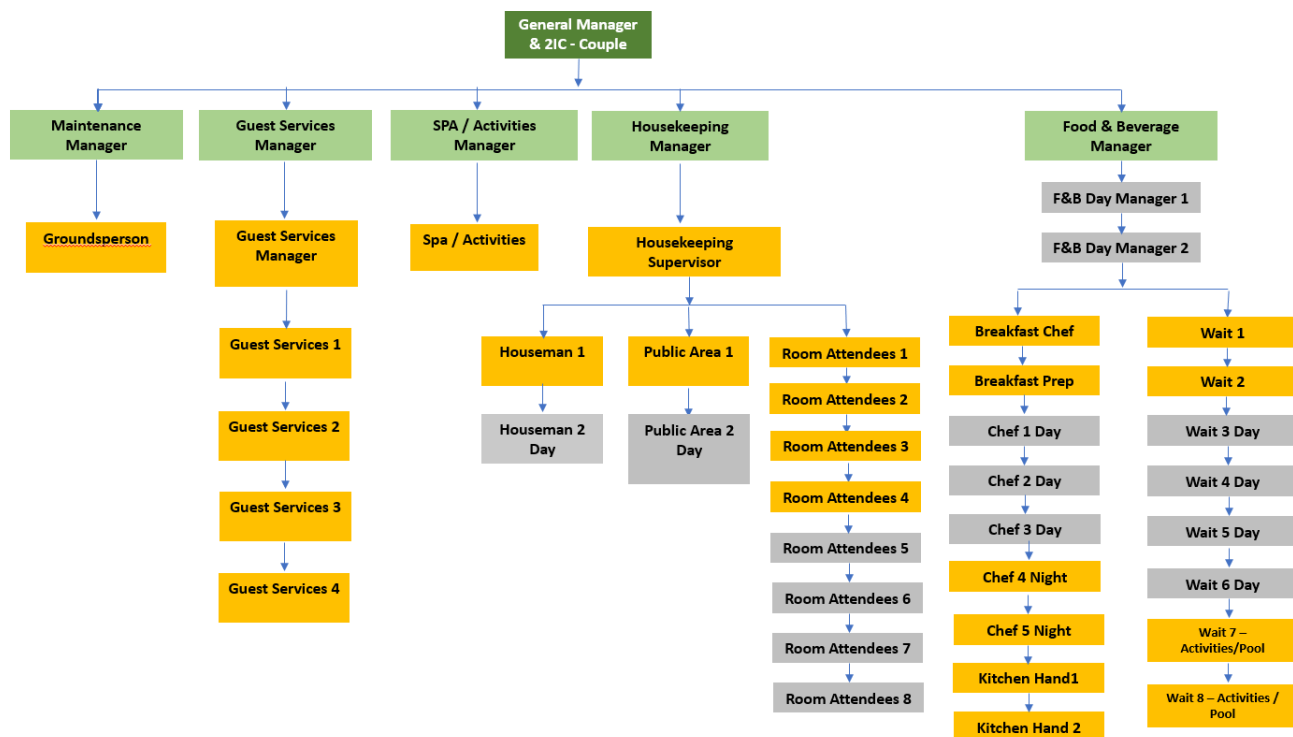
To reduce energy consumption, we will be implementing the following initiatives;

- Use energy efficient lights where possible
- Encourage guests and staff to switch off lights and appliances when not in use
- Regularly clean air conditioning filters to make sure they're not working harder than needed
- Encourage air con systems to be maintained at an easy 23°C
- Installing insulation in all buildings to reduce the need for air conditioning
- Keeping fridges and freezers sealed and at optimal temperatures

- Making sure all appliances have the best suitable energy consumption rating.
- In-room technology — including lights automatically turning off and blinds closing when a guest exists a room to keep the rooms cool and conserve energy.
- Integrated building management system to identify efficiencies.

Appendices

APPENDIX A



APPENDIX B

Proposed Hook Island Eco Lodge Ferry Schedule				
From	Depart	To	Arrive	Notes
Airlie	10:50am	Hook	11:30am	Arrivals from Airlie (2.5 hr Lunch & Guests)
Hook	11:40am	Hamilton	12:20pm	Depart for Hamilton Island
Hamilton	12:30pm	Hook	1:10pm	Arrivals from Hamilton (3 hr Lunch & Guests)
Hook	2:00pm	Airlie	2:40pm	Depart for Airlie Beach
Airlie	2:50pm	Hook	3:30pm	Arrivals from Airlie (3 Hr Dinner & Guests)
Hook	4:10pm	Hamilton	4:50pm	Depart for Hamilton Island
Hamilton	5:00pm	Hook	5:40pm	Arrival of Hamilton Island (Overnight Guests)
Hook	7:00pm	Airlie	7:40pm	Depart for Airlie Beach