

Initial Sustainability Assessment



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Service:	Sustainable Design
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FCDS have been commissioned to assist the Middleton Beach hotel design team to provide a sustainable project outcome that meets the requirements of the local council planning as well as offers value to the project owners, occupants, guests and local community.

Based on previous commentary from the design review panel this strategy has been refined, considering benchmarks and outcomes beyond the basic Green Star Buildings tool. Design intent has been adjusted to address key challenges based on the local climate, the location and the specific site conditions. The team have identified a number of key themes to be addressed:

- Resource Efficiency and Small Footprint
- Sustainable Management and Operations
- Social Sustainability
- Health and Wellbeing

In addressing these themes, the design team have drawn on nationally and internationally recognised benchmarks and targets, including Green Star Design and As Built, FitWel, Green Star Buildings and NABERS.

This note provides a brief overview of the proposed strategy to be incorporated, addressing both the internal; goals and themes above and also council requirements.

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Project Description

The proposed project is a commercial / hotel development on Middleton Beach in Albany. The design includes more than 60 accommodation units, two food and beverage outlets, a wellness clinic and function area across seven levels above the ground floor.

In addition to accommodation, the design includes around 93 car bays, mostly located in a car park remote from the main building site on a lot adjacent, with limited on-site parking.

Level 1 includes a landscaped podium, with access for occupants and the public to a green space, which is provided with wind screening for occupant comfort.

The overall building orientation has been planned to permit occupied spaces to enjoy northerly and eastern primary orientations. This is ideal solar passive design, offering solar access year round and passive heating in winter months.

The image below shows the views out over Middleton Beach.



Assessment Review












Sustainability Themes and Targets


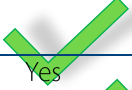
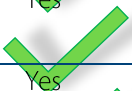


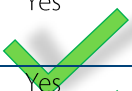







In considering the outcomes for a successful project, the design team identified Sustainability as a key outcome. Reviewing available rating tools indicated that a formal assessment at design stage did not provide a strong value proposition. As such, the project team identified a set of key metrics to be achieved by the project:

- Resource Efficiency and Small Footprint
 - Onsite renewable generation
 - ~65kW PV Array
 - Improvement over BCA requirements
 - 10% BCA Performance Improvement - Facade
 - 15% BCA Performance Improvement – Services
 - Minimisation of Fossil Fuels
 - Collection of rainwater for common area toilets
 - NABERS Water and Energy Certifications
 - 5 Star Target
 - Carbon neutral operation certification
 - Minimise footprint and offset following the Climate Active protocol
- Sustainable Management and Operations
 - Metering and Monitoring
 - Self-calibrating and verifying
 - Performance display and interpretation for building users
 - Waste Management and Minimisation
 - >70% Recycling in operation
 - Cater for 3 streams of separation
 - Occupant Engagement Scheme
 - Signage and Marketing Materials
- Social Sustainability and Local Benefit
 - Indigenous engagement – Refer to separate report
 - Public access to podium
 - Native Landscaping – refer to separate report
 - Sustainable Stormwater Management - refer to separate report
 - Electric Vehicle Charging Infrastructure – Provide 5% of bays as EV capable
- Health and Wellbeing
 - Low toxicity finishes – paints, carpets, adhesives, sealants and joinery
 - Active Transport
 - Local Transport hub
 - Bike parking and end of trip facilities
 - eBike Provision by Hotel
 - Pedestrian connection

Council / Development Requirements

In addition to the above, the following elements have been included to address council requirements:

Category	Requirement	Comment	Achieved?
Built Form	Adequate access to daylight and natural ventilation	The design includes single loaded corridors with ample glazing with balconies and fixed external shading providing glare control	Yes 
	Indoor and Outdoor access to the sun	Occupied zones have northern or eastern aspects to provide passive heating, with a degree of solar control during hot periods	Yes 
	High Performance Building	Design is to exceed BCA minimum requirements by 10% and incorporate renewable generation as well as efficient services	Yes 
Natural Ventilation, Solar and Daylight Access	Achieve minimum 2-hour solar access during 9AM and 3PM	Occupied zones have northern or eastern aspects to provide passive heating, with a degree of solar control during hot periods	Yes 
	Openable Windows	Design will permit operation in mixed mode, with designed outside air flow paths to avoid uncontrolled leakage	Yes 
	Control Solar Access	Design provides appropriate solar access for Albany, that is, access to passive heating is given priority for much of the year.	Yes 
Noise and Pollution	Minimize external noise and pollution	Plant will be located away from occupied and public areas and will be high efficiency. The design team are reviewing central plant options to simplify maintenance and minimum optimize footprint	Yes 
	Plant Location	Plant is carefully located away from neighbors and high value public areas offering improved maintenance access.	Yes 
Facades	Wind Control	Pool and external public areas are provided with wind control mechanisms to improve thermal comfort and reduce energy / water consumption.	Yes 
	Glazing	Glazing proportions to conditioned areas will be controlled to avoid excessive glass performance requirements whilst still permitting visibility and permeability of the façade	Ongoing* 
Roofs	Open Space	Roofs are designed to provide public spaces with landscaping and uses which promote health and wellness.	Yes 

Category	Requirement	Comment	Achieved?
Lighting	Light Pollution	The design is targeting compliance with best practice guidelines as per AS 4282 – considered market best practice.	Yes 
Building Services	Integration	Building services are generally within plantrooms for access and optimization of performance	Yes 
Energy Efficiency	Targets	Design includes performance targets in operation including intent to certify to NABERS	Yes 
	Air Conditioning Systems	Air conditioning systems are targeting 5% performance improvement over published MEPS.	Yes 
	Hot Water Systems	Hot water will utilize central, electric heat pump systems with consideration for ground source connection to improve efficiency and reduce maintenance costs	Yes 
	Lighting	Lighting will utilize LED with central controls to minimize energy consumption and wastage	Yes 
	Metering	Metering will be provided to key usage categories – such as renewable generation - to permit tuning in operation.	Yes 
Water	Management	Water performance targets are being set in accordance with NABERS 4.5-Star performance commensurate with facility service provision	Yes 
	Rainwater	Collection of rainwater for reuse in common area toilets	Yes 
	Stormwater	Stormwater is to be infiltrated on site as far as practical. The expectation is that the design will cater for up to 1:100 year ARI.	Yes 
	Flooding	Design avoids subterranean spaces and provides resilient stormwater management systems to manage this risk.	Yes 
	Efficient Fittings	Building is targeting high WELS certified products throughout, bearing in mind occupant amenity and maintenance requirements.	Partial** 
Waste	Management	Waste planning is utilizing best practice principals and operator experience to optimize collection volumes and locations.	Yes 

* The design team note that benchmarks in design guidelines are not feasible with BCA 2019 performance requirements or appropriate for sustainable design. Percentage benchmarks are considered indicative and advisory only.

**The design is targeting WELS performance with 1 star of best available – this is considered industry best practice in Australia