

Our Ref: 17/259 (DA 017/2017)

Tony Dichiera (on behalf of Garrett Hospitality Pty Ltd)
C/O Christou Design Group
12 Gurgeri Street
CLAREMONT WA 6010

Attention: Tony Dichiera

Dear Tony

DEVELOPMENT APPLICATION (DA017/2017):

HOTEL ROTTNEST RESORT INCLUDING EIGHTY (80) ACCOMMODATION ROOMS (OVER TWO LEVELS), FOUR (4) POOLS (INCLUDING TWO (2) MAIN POOLS AND TWO (2) PLUNGE POOLS FOR THE EXECUTIVE SUITES), RESTAURANT, FUNCTION FACILITIES, SPA, GYM, ROOF TOP BAR (ON SECOND LEVEL) AND STAFF ACCOMMODATION.


I refer to your development application lodged on the 4 October 2017 for the proposed Hotel Rottnest Resort, located over 0.8446 hectares at 1 Bedford Avenue, Rottnest Island.

In accordance with the *Rottnest Island Authority Act, 1987*, Rottnest Island Regulations and Development Planning Policy and Guidelines, please find your **CONDITIONAL APPROVAL** for the proposed works outlined above.

Development Approval does not remove the need for any other approvals, licences or permits that may be required. Prior to any works whatsoever commencing on-site, an application for a Building Licence must be submitted to and approved by the Rottnest Island Authority. As part of the Building Licence Application, all information necessary for the purpose of addressing conditions in the attached approval should also be provided.

If you require any further information please contact the undersigned on 9327 9333 or bridie.howe@dbca.wa.gov.au.

Yours sincerely



Michelle Reynolds
EXECUTIVE DIRECTOR
ROTTNEST ISLAND AUTHORITY

9 March 2018



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Notice of Determination on Development Application

Rottnest Island Authority Act 1987

APPROVAL TO COMMENCE DEVELOPMENT

REF NO: 17/259 ISSUE DATE 9 March 2018

Description of Proposed Development:

Hotel Rottnest Resort including eighty (80) accommodation rooms (over two levels), four (4) pools (including two (2) main pools and two (2) plunge pools for the executive suites), restaurant, function facilities, spa, gym, roof top bar (on second level) and staff accommodation.

Name of Land Owner: Crown land vested in the Rottnest Island Authority.
Address: 1 Bedford Avenue, Rottnest Island.
Applicant: Christou Design Group (on behalf of Garrett Hospitality Pty Ltd).
Application Date: 4 October 2017

Approval:

Approval to commence development is hereby granted for the proposed development subject to the following conditions:

1. The development shall be carried out and fully implemented in accordance with the plans and application form as approved herein, unless otherwise required or agreed in advance in writing by the Rottnest Island Authority.
2. This planning decision relates to the development as specified and does not infer approval of any other unauthorised development or development which has been constructed contrary to its planning approval which may be depicted on the approved plans.
3. The approved 'Hotel Rottnest Sustainable Design Opportunities and Assessment' Report prepared by Graham Agar of Full Circle Design Services dated January 2018 Revision C (original date of issue 24 January 2018) must be implemented to the satisfaction of the Rottnest Island Authority.
4. Prior to the application for a Building Permit, the following documents shall be submitted to the satisfaction of the Assistant Director General, Heritage Services, of the Department of Planning, Lands and Heritage:
 - a. The store room between the proposed function room and the former Governor's Residence shall be deleted from the proposal.
 - b. The walls of the former dining room are to be demolished and conservation works are to undertaken to the original verandah columns to allow the original frontage of the former Governor's Residence to be seen in the round.



- c. An Archaeological Management Plan that provides for the identification of and strategies for, areas of archaeological potential.
 - d. A standard archival record shall be prepared according to the Heritage Council's *Guide to Preparing an Archival Record* and be submitted prior to any works commencing.
 - e. An Interpretation Plan for the site shall be developed and implemented along with the detailed design of the new development.
 - f. Materials and colour schedule for new development.
 - g. Signage and lighting strategy that provides for a coordinated approach to the provision of signage and lighting within the context of the Thomson Bay Settlement.
 - h. Landscape Plan that clearly details the proposed materials, finishes and plantings, and the impact on significant fabric such as the extant perimeter wall portions. The Landscape Plan should provide for an adequate zone around the original boundary wall to ensure that water is not directed onto it.
 - i. The Construction Management Plan is to include provisions for protective measures for significant fabric during construction.
5. The works associated with the demolition of the walls of the former dining room and associated conservation works to be undertaken to the original verandah columns to allow the original frontage of the former Governor's Residence to be seen in the round are to be undertaken at the applicants cost, to the satisfaction of the Rottnest Island Authority.
 6. Prior to the lodgement of a Building Permit, an Aboriginal Heritage Management Plan must be submitted to and approved by the Rottnest Island Authority including a comprehensive monitoring plan with particular reference to the potential of burials in the seaward sand dunes and the potential presence of embedded artefacts in the Tamala limestone. The Aboriginal Heritage Management Plan must be implemented throughout the construction period to the satisfaction of the Rottnest Island Authority.
 7. Prior to the lodgement of a Building Permit, a Coastal Management Plan is to be submitted to and approved by the Rottnest Island Authority. The Coastal Management Plan must be implemented at all times to the satisfaction of the Rottnest Island Authority (Refer to Advice Note 4 & 5).
 8. Prior to lodgement of a Building Permit, a Bushfire Management Plan must be submitted to and approved by the Rottnest Island Authority. The Bushfire Management Plan must be implemented at all times to the satisfaction of the Rottnest Island Authority.
 9. Prior to lodgement of a Building Permit, a Bushfire Emergency Evacuation Plan must be submitted to and approved by the Rottnest Island Authority. The Bushfire Emergency Evacuation Plan must be implemented at all times to the satisfaction of the Rottnest Island Authority.
 10. Prior to lodgement of a Building Permit, a Waste Management Plan shall be submitted to and approved by the Rottnest Island Authority. The Waste



Management Plan shall be implemented at all times to the satisfaction of the Rottnest Island Authority (Refer to Advice Note 6).

11. Prior to the lodgement of a Building Permit, a Wildlife Management Plan must be submitted to and approved by the Rottnest Island Authority, to manage and prevent wildlife interactions with patrons whilst they are on the premises and business operations, facilities, plant and equipment. The Wildlife Management Plan must be implemented at all times to the satisfaction of the Rottnest Island Authority (Refer to Advice Note 7).
12. Prior to the lodgement of a Building Permit, a Pest Bird Management Plan must be submitted to and approved by the Rottnest Island Authority, to manage and prevent pest bird interactions with patrons whilst they are on the premises. The Pest Bird Management Plan must be implemented at all times to the satisfaction of the Rottnest Island Authority (Refer to Advice Note 8).
13. The Rottnest Island Main Jetty is not permitted to be used for the transportation of construction machinery or materials for the development.
14. Prior to the lodgement of a Building Permit, a Construction Management Plan must be submitted to and approved by the Rottnest Island Authority. The Construction Management Plan shall address hours of construction, dust, noise, waste management, storage of materials, traffic and site/safety/security. The Construction Management Plan is to be complied with for the duration of the construction of the development to the satisfaction of the Rottnest Island Authority (Refer to Advice Note 9).
15. Prior to the lodgement of a Building Permit, a Landscape Management Plan must be submitted by a suitably qualified landscape architect or designer and approved to the satisfaction of the Rottnest Island Authority. The Landscape Management Plan must be implemented at all times to the satisfaction of the Rottnest Island Authority.
16. Prior to the lodgement of a Building Permit, a signage concept plan including details of all proposed signage, must be submitted to and approved to the satisfaction of the Rottnest Island Authority. The sign concept plan must be implemented at all times to the satisfaction of the Rottnest Island Authority.
17. Illumination of signage is not permitted.
18. All signage shall be kept clean and maintained free of disrepair at all times to the satisfaction of the Rottnest Island Authority.
19. All roof mounted or freestanding plant or equipment shall be located and/or screened so as not visible from the surrounding sites, to the satisfaction of the Rottnest Island Authority.
20. External lighting shall be designed, baffled and located so as to prevent any adverse effect on surrounding sites, to the satisfaction of the Rottnest Island Authority.



21. Stormwater from all roofed and paved areas shall be collected and contained on site to the satisfaction of the Rottnest Island Authority.
22. The Bin Storage area is to be constructed and maintained in accordance with the following to the satisfaction of the Rottnest Island Authority:
 - a. No ability for wildlife to access.
 - b. Place a roof above and enclose the bin storage area.
 - c. No storage of bins outside of the facility/premises.
23. The existing landscaping located within and around the premises shall be protected during the construction process period with any damage to the landscaping to be remediated to the satisfaction of the Rottnest Island Authority.
24. The accommodation identified on the approved plans (excluding the staff and manager accommodation) are to be used for short stay accommodation purposes only, and shall not be occupied permanently for a period exceeding 3 months in any month period (in advance) by the Rottnest Island Authority.
25. The development is not to interfere with the amenity of the locality or cause nuisance by reason of the emission of noise, vibration, smell, fumes, smoke, vapour, steam, soot, ash, dust, waste.
26. All external clothes drying facilities shall be screened from view of the primary and secondary street, to the satisfaction of the Rottnest Island Authority.
27. If development has not commenced within 2 years of the date of approval, the approval shall lapse and have no further effect unless otherwise required or agreed in writing by the Executive Director.

Advice Notes:

1. This planning decision is confined to the Rottnest Island Authority of the Rottnest Island Authority Act 1987. This decision does not remove the obligation of the applicant and/or property owner to ensure that all other applicable state and federal legislation is complied with, and any restrictions, easements, or encumbrances are adhered to.
2. This planning approval has been issued on the basis of the plans hereby approved. It is the responsibility of the applicant to ensure that the approved plans are accurate and are a true representation of all existing and proposed development on the site, and to ensure that development proceeds in accordance with these plans.
3. The applicant is advised that this development requires additional generation and modifications to the Rottnest Island Authority's High Voltage network, requiring approximately an additional 300kVA generator installed at the Island's power house to meet the development's maximum demand.



4. The applicant is advised that the proposal has the potential to be affected by sea level rise. It is recommended the applicant understand the implications of potential sea level rise on the site. The onus rests with the applicant to undertake a risk assessment and exercise their judgment in determining the level of risk they are prepared to accept. Please consider State Planning Policy No. 2.6 State Coastal Planning Policy. It is recommended that the applicant undertakes their own research and obtain appropriate independent professional advice relevant to the particular circumstances.
5. The Coastal Management Plan shall include upgrades to the coastal area and environment adjacent to the premises by improving amenity, condition of dunes, native vegetation and capacity of access ways to manage traffic and visitor risk.
6. The Waste Management Plan shall align to Rottnest Island waste management objectives and targets and apply the waste hierarchy (Waste Authority Communication and *Waste Avoidance and Resource Recovery Act 2007*) in its decision making in delivery waste management on Rottnest Island.
7. The Wildlife Management requires the proponent to identify all wildlife species (native and non-native) that interact with the proposed (construction and operational) activities and ensure appropriate exclusion, deterrence, detection, management procedures and education mechanisms are developed and actioned to manage wildlife interactions. The availability of food for wildlife shall be prevented at all times on the premises. .
8. The Pest Bird Management Plan shall align to management options within the Rottnest Island Integrated Pest Bird Management Plan to the satisfaction of the Rottnest Island Authority. This shall include that food availability and ability for birds to perch and take food is prohibited. This may include the installation of wire netting controls (or something to the effect) on decking and or areas where food is available.
9. A construction management plan is to be submitted addressing all aspects of the Rottnest Island Authority's Development Planning Guideline No. 10 'Construction Management' and any other matters raised by the RIA.
10. In preparing management plans, the proponent shall identify all aspects of their construction and ongoing operations that interact with environmental aspects, assess these for risk and impact and identify and action adequate management controls to the satisfaction of the Rottnest Island Authority.

Signed:



**JOHN LANGOULANT
CHAIRPERSON**

DATE

09-03-2018



ROTTNEST ISLAND AUTHORITY

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Planning | Design | Delivery | Performance

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5. Waste and Surrounding Ecology

In addition to the utility impacts of the resort, the design team intend to provide a response which will limit site emissions such as waste generation, light spill and localised heat island effects:

5.1 Waste Generation

The design team has already considered means to collect and recycle as much as possible, based on standard waste generation rates. Consideration could now be given to initiatives which can reduce the actual generation rate of occupants on site. Features such as the provision of reusable water bottles for Hotel guests and provision of free, filtered drinking water would substantially reduce the quantity of plastic bottles required. Similarly, procurement of low-packaging consumables for the site would also be advantageous.

5.2 Light Spill

It is becoming increasingly common practice for lighting design in nature reserves to minimise light spill off site, without compromising security or aesthetics within the Hotel area. Lighting design and simulation is expected to be carried out to optimise this for the Hotel Rottnest.

5.3 Heat Island

The use of dark colours and hard landscaping elements can contribute to localised areas of high temperature which reduces the effectiveness of natural ventilation and increases the need for air conditioning systems. The design is currently using existing and relocated trees, as well as shaded areas and a light colour scheme to avoid this as much as possible.



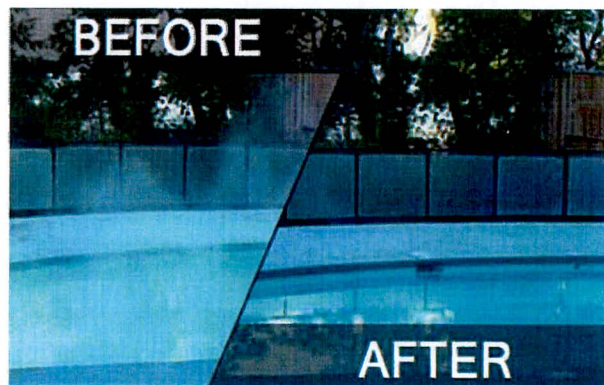
- One potential solution to these problems would be to utilise a manual pumping system with a ballast storage tank for the pools. This would allow sea water to be maintained – either as part of the pool volume, or separate, in a tank which would be expected to deplete over time and be manually replaced by pump and hose and convenient junctures.

3.3 Liquid Pool Blankets

Pool blankets reduce water evaporation. This is significant not only for the reduction in water consumption, but also because it reduces the energy required to heat and maintain pool temperature year round. Traditional, roll on, blankets can be considered unsightly and a maintenance / safety risk, however, these issues can be addressed by a liquid pool blanket.

Liquid pool blankets are formed by a chemical which floats on top of the water, providing a barrier to evaporation. Swimmers are generally not aware of its presence. During periods of pool use, the chemical is somewhat dispersed within the pool, however, over time its natural buoyancy returns it to the surface where it can form a blanket again.

The chemical requires regular reapplication and dosing, however, this can be automated through the pool chlorination or filtration system. The blanket is invisible and can cover any shape water surface and is therefore an ideal option for a resort style application.



[<http://heatpumpsystems.com.au/wp-content/uploads/HeatSVR-Heat-Pump-Systems-Sunshine-Coast.jpg>]

4. Renewable Energy

As indicated in the HFM report, the Hotel Rottnest site would be expected to utilise renewable energy as a means to reduce operational costs as well as its reliance on the Rottnest Island power grid.

The exact size of the proposed array will only be able to be finalised during design and commissioning phases of the project, when more detail about expected usage patterns and power requirements are determined.

4.1 Pool and Water Heating

In addition to Photovoltaic arrays to convert sunlight to electricity, any available roof space should be used to provide heating to domestic hot water and/or pool water. Solar thermal is more efficient than Photovoltaic and generally has better economic payback periods in WA.

3. Water Consumption

The Hotel has a number of significant potential uses for water on site, including:

- Irrigation
- Pool
- Guest ablutions
- Laundry
- Cooking / cleaning

Whilst many of the above are not suitable or advisable to vary water quantity and/or quality, there are design features (beyond water-wise planting and low flow tapware) which should be explored to reduce potable water consumption. Some of these are described below:

3.1 Localised rainwater reuse

Rottnest receives, on average, around 550-600mm of rainfall annually. Most of this is concentrated in the middle, winter portion of the year. Use of rainwater capture systems therefore are only really viable to replace mains water for 5-7 months of the year.

In addition, the relatively cheap cost of water makes ongoing maintenance and management of reclaimed water economically unviable.

However, for this development, there are a number of laundries around the site serving guest and hotel requirements. Collection of rainwater for use in these areas is expected to be relatively low cost, low maintenance and create a highly visible means of reducing water consumption.

Similarly, capture for reuse in public area toilets and/or as top up or backwash for swimming pools could also be considered.

3.2 Ocean Water for the Pool

Ocean water contains salt as a natural sanitising agent that can significantly reduce the requirement for chemical treatment within public pools. Whilst filtration and some additional chlorine are required to meet WA Health standards, the use of sea water to serve the Hotel swimming pools would reduce potable water consumption by 5-10% (HFM) and chemical consumption significantly.

Whilst it does reduce potable water consumption, use of ocean water in pools has a number of issues that would need to be addressed by the design team, as follows:

- Corrosivity and Scaling
 - Consideration will need to be given to filtration and treatment of incoming sea water, as well as a requirement to upgrade pool pumps, screens etc to cater for increased calcification and higher salt content than typical pool systems.
- Intake Point
 - Drawing water from the ocean is a fairly common practice in Perth and, indeed, on Rottnest. Power plants or desalination systems use water from the ocean and therefore have tried and tested means of collection and reinjection of water from the ocean.
 - The above notwithstanding, ocean water intakes present a number of issues in terms of licensing and maintenance, as well as capital costs of installation and the need for the hotel to install, maintain and monitor considerable assets outside of their site. In addition, short term issues with water quality in Thompson Bay may cause issues with pool water if there is no manual control of intake times or locations.

2.5 Transportation

The prevalent mode of transportation on Rottnest is bicycle, or bus. Individual use cars are generally not available, meaning the development has exceptionally low embodied energy associated with access and movement on the island. If assessed formally, a performance based approach would be expected to yield most of the available points.

2.6 Water

The project includes low flow tapware and water wise irrigation as standard design features. Consideration should also be given to rainwater capture and reuse within laundries. Whilst provision of non-potable water within accommodation represents an increased health risk and would likely require significant ongoing testing and maintenance, rain water use for laundries would be expected to require limited treatment or additional plumbing expense.

2.7 Materials

The design will select ecology sustainable materials as far as practical and will focus on avoidance of waste and preferential recycling.

As noted following, the use of off-site prefabrication and very low ongoing carbon emissions would result in a strong Green Star score for this category.

2.8 Ecology and Emissions

The Hotel is to be built on a site which has been previously developed and intends to minimise outflow in terms of noise, light, sewer and stormwater.

The design team also proposes to use a light-coloured roof and plenty of shaded or green space at ground plane level to minimise the local heat island effect.

Any existing structures should be reviewed for hazardous material content and, where required, appropriately decontaminated.



2.3 Indoor Environment Quality

IEQ stands for Indoor Environment Quality and is at the heart of the business case for sustainable design. As a resort, financial success depends on the guest experience being outstanding. The proposed design for Hotel Rottnest therefore has included most of the available features under Indoor Environment Quality.

The current design is well oriented for solar passive design, with limited western glazing and overhang shade provided to accommodation windows. This allows the design to include large extents of clear glazing, with minimal energy efficiency penalties.

Low toxicity finishes will be included – paints, sealants, floor and wall coverings, adhesives, composite wood products – and the project team will be investigating the potential for use of 0 VOC (Volatile Organic Compound) paints and low VOC mattresses for guest rooms.



2.4 Energy Efficiency

With the high electrical tariff for the Hotel Rottnest, energy efficiency measures have significantly better pay back periods than in metropolitan Perth.

The relatively mild climate on the island, as well as the strong solar passive design will minimise the requirement for air conditioning use and the provision of ceiling fans in bedrooms and living areas will also contribute to minimising energy consumption without compromising comfort.

The design team will be targeting more than 50% reduction in carbon emissions, in comparison to typical BCA performance, across the whole project, with efficient lighting, air conditioning and building façade being key to this outcome.



2.2 Management Initiatives

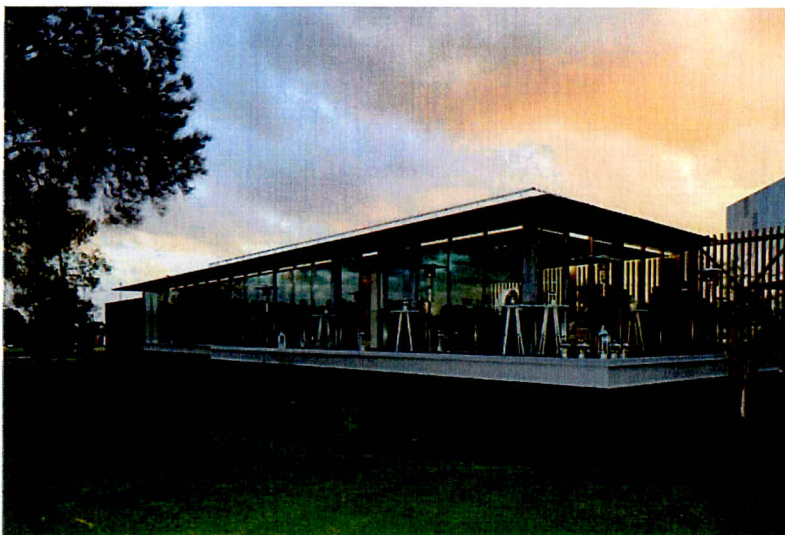
The initial planning for this project has been based around a sustainable outcome – as evidenced in the accompanying reports and the architectural design response. Moving forward, design team inclusions such as dedicated ESD professionals and commissioning management personnel would be expected to be made to ensure that the final construction meets design intent.

As part of the building tuning and optimisation process, the design team intend to make building performance data available to visitors and staff. This data will be provided with readily understood interpretations and comparisons to expectations to improve understanding and engagement and – hopefully – recruit building occupants to the cause of improving performance.

The existing development already undertakes monthly energy and water monitoring and management, therefore the new development will seek to expand and modernise this practice.

Similarly, the design team includes waste management professionals who will be assisting with design and layout of facilities within the resort, as well as providing operational strategies to minimise waste generation post completion.

Another key management initiative in the design process is intended to be the use of offsite prefabrication of much of the built form. This design feature requires careful attention to detail, however, will reduce site construction time and impact to the surrounding ecology, as well as reducing construction waste and improving maintainability / replicability of built form components in operation.



Prefabrication has become increasingly popular in Perth, with display suites and finished projects utilising the technology in the past few years (Waterbank Display Suite – Left).

2. Green Star and NABERS

Whilst the project is not currently seeking formal recognition under any rating tool, the design team will be implementing sustainable design features intended to meet or exceed benchmarks published by the GBCA (Green Building Council of Australia). Similarly, ongoing water and energy efficiency measures are intended to result in strong performance against peer group facilities when measured using the NABERS protocol.

The following provides a brief description of the Green Star system and where the design team expect to meet Green Star targets. Please also refer to the attached Green Star Score Card for additional information and a full list of all initiatives and features targeted. Detailed NABERS comparisons for energy and water would be completed as the design develops and building modelling is progressed.

2.1 Green Star Design and As Built Back Ground

Green Star is the project assessment tool developed and administered by the GBCA (Green Building Council of Australia). It is a voluntary tool which seeks to reward projects for including design features which reduce the impact of developments and even to act as a restorative force. Initially, the system was only used to rate offices, however, in the past 8 years, it has been expanded and now covers the vast majority of buildings, other than single residential dwellings.

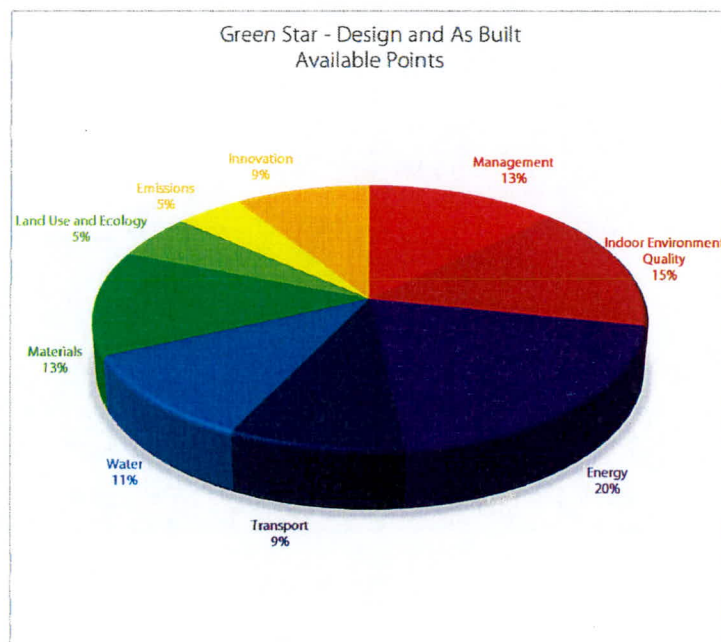
In recent times the Green Star system has changed from a collection of tool for specific building types, to one tool for construction or refurbishment projects – Green Star Design and As Built.

Projects are awarded a percentage score based on their achievement against ~100 base points. There are additional points available (to a maximum of 10%) based on project's performance in the innovation category.

Benchmarks are set such that 45% represents 4 stars (market best practice), 60% represents 5 stars (Australian Excellence) and 75% represents 6 Stars (World Leadership). Green Star rewards market leading projects, with certifications for best practice and above only.

The Green Star system recognises projects for the inclusion of design initiatives and actions, with limited emphasis on performance of the building once the initiatives have been included. Essentially, the system aims to improve market thinking and raise minimum standards, by providing a positive force to reward projects which go above and beyond simple project delivery.

As noted above, the Hotel Rottnest development will be targeting a self-assessment of at least 60% - representative of Australian Excellence and in keeping with the RIA certification for advanced ecotourism.



The development is an extension of the existing hotel site and will include around 80 rooms or apartments of guest accommodation, plus staff accommodation and 2400m² of resort support areas, such as Function Areas, bars or restaurants.

The environment is highly saline, with the closest buildings within 100m of the ocean and a salt-lake less than 500m to the west.

1.2 Island Utilities and Constraints

Rottnest Island produces much of its own electricity through renewable means, with the RIA (Rottnest Island Authority) operating 600kW wind power and 600kW solar power systems, backed up by diesel generators. Indicatively 45% of peak island load can be met by these systems.

Similarly, much of the water available on the island is produced from local desalination.

Gas is delivered to individual users on the island and stored in local tanks.

The cost of utilities are significantly higher on the island than in Perth and, therefore, renewable energy or water reuse systems are more economically viable than on the mainland.

1.3 Occupant Engagement

As alluded to in the following sections, the Hotel Occupants and Staff have by far the greatest impact on the ecological footprint of the development. The design is set to include user engagement and performance monitoring systems to assist Hotel management in extending and developing their existing passive signage and policies which encourage guests to reduce water consumption – for example by retaining linen and towels - energy and waste. Overt sustainability measures, such as renewable energy generation systems, rain water tanks and the like should be included within the design to support this process.

75% 

of hotel guests said that they would actively participate in hotel sustainability programs during their stay.



1. Introduction

Full Circle Design Services have been engaged to review the proposed design for the Hotel Rottnest development and explore potential sustainability options for consideration by the design team. FCDS have utilised the Green Star Design and As Built V1.2 tool to quantify the likely sustainable outcomes and provide an industry accepted benchmarking process to substantiate claims.

Rottnest Island has already been recognised as a leader in sustainable design and ecotourism, having been certified in 2015 as an Advanced Ecotourism provider. It is therefore imperative that future designs and constructions on the island seek to maintain and improve this level, minimising any impact on the surrounding Class A nature reserve.

At this stage, the project is not intending to pursue a formal certification under any rating scheme, however is intending to achieve the equivalent of Australian Excellence in Sustainable design by self-assessing to at least 60% of the sustainable design features of the Green Star Design and As Built V1.2 tool. In addition, the team are seeking opportunities to include suitable sustainable design features – potentially outside of the scope of Green Star – that would have measurable positive impacts on the environment.

1.1 Site Description

Hotel Rottnest is located to the south of the main town site on Thompson Bay, Rottnest Island, approximately 18km west of Fremantle.



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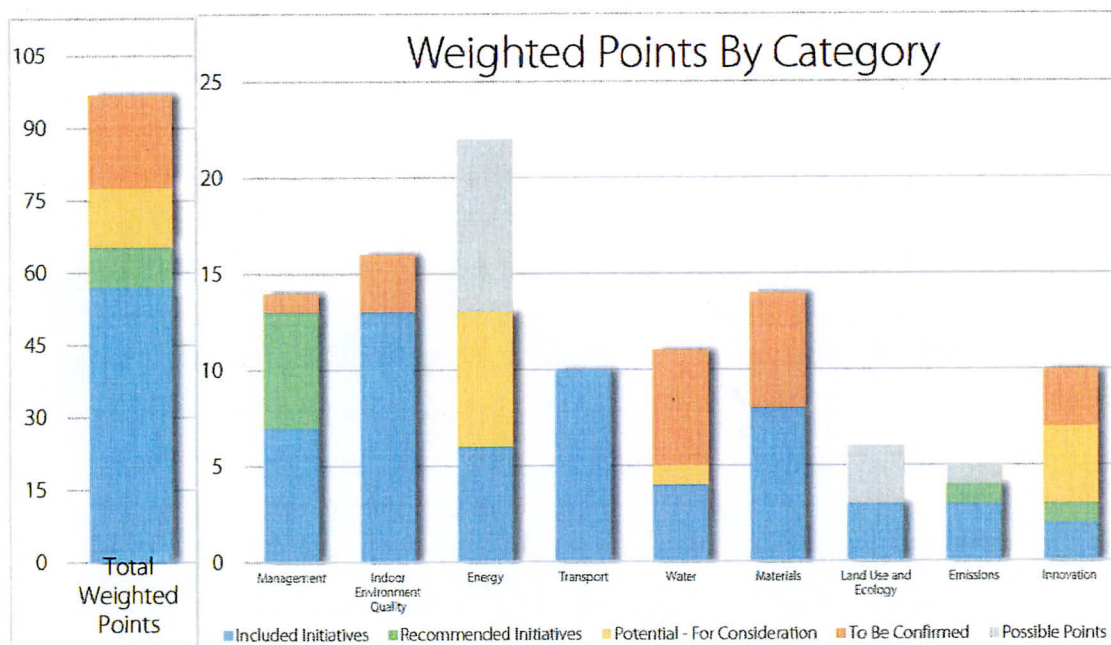
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Executive Summary

Full Circle Design Services have been engaged to undertake an independent review of the DA submission for the proposed Hotel Rottneest development and explore potential sustainability options for consideration by the design team. FCDS have utilised the Green Star Design and As Built V1.2 tool to quantify the likely sustainable outcomes and provide an industry accepted benchmarking process to substantiate claims.

Rottneest Island has already been recognised as a leader in sustainable design and ecotourism, having been certified in 2015 as an Advanced Ecotourism provider. It is therefore imperative that future designs and constructions on the island seek to maintain and improve this level, minimising any impact on the surrounding Class A nature reserve.

In brief, the proposed design is already considered highly sustainable, with design features included in the DA report - or expected to be delivered by virtue of the nature of the project - achieving 57% by FCDS self-assessment (note that the target for 5 Star, *Australian Excellence in sustainable design* is 60%). The additional 3% would be expected to be achieved with design development from the identified 19% available in features to be confirmed as the design progresses.



In addition to the initiatives already included, a further 8% of initiatives are recommended and another 12% potential inclusions for design team consideration. The bulk of the 12% potential inclusions are an extensive renewable energy system that would be expected to have a payback period of <6 years based on HFM predicted energy consumption and no escalation in the current utility rate.

In addition to the renewable energy system, FCDS also recommend features such as:

- Use of ocean water for swimming pools
- Local rainwater capture for laundry use
- Prefabrication of building offsite to minimise construction impact and waste
- Minimal VOCs in guest bedding and room finishes.

Full Circle Design Services

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Report N^o: 2018_007_REP_01

Email: graham.agar@fcds.com.au

Original Date of Issue: 24th January 2018

ACN: 163 742 890

ABN: 84 163 742 890

Title:	Hotel Rottnest – Sustainable Design Opportunities and Assessment
Author :	Graham Agar
Client:	Christou Design Group
Contact:	James Christou
Description:	This report provides a brief review of the current sustainable design inclusions and potential ESD options within the DA submission for the Hotel Rottnest development. In addition to the utility efficiency reporting undertaken by HFM and waste management review by Encycle, this report compares expected project design outcomes to the Green Star Design and As Built tool and identifies potential design opportunities that would improve ecological outcomes for the Hotel and the greater island.

Revision	Date	Checked by	Transmitted by
A	24 th January 2018		GEA
B	25 th January 2018		GEA
C	25 th January 2018		GEA

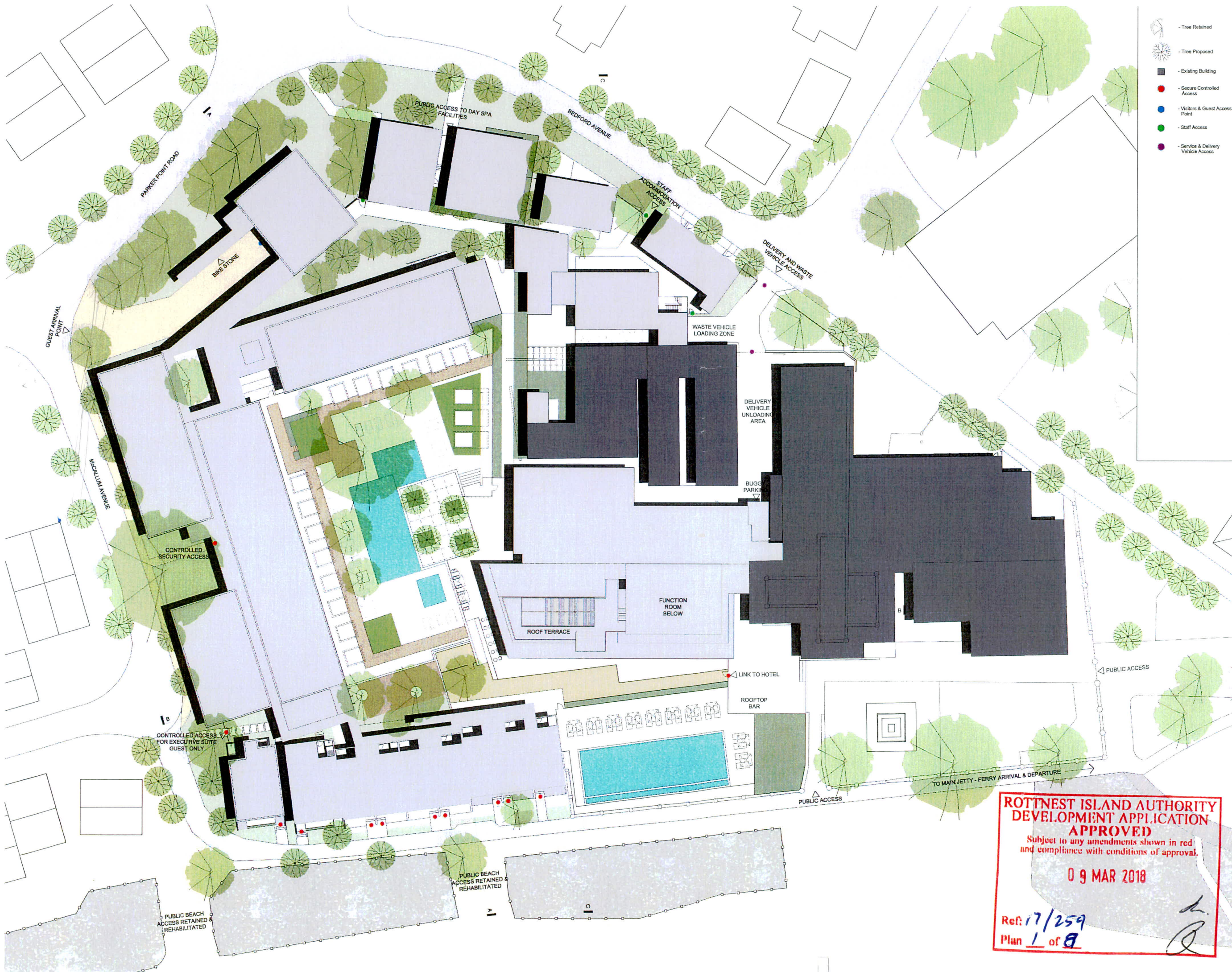
Distribution	Revision						
Receiver	A	B	C				
Christou Design Group	X	X	X				

January 2018

Hotel Rottnest

Sustainable Design Opportunities
and Assessment

Graham Agar
FULL CIRCLE DESIGN SERVICES



- Tree Retained
- Tree Proposed
- Existing Building
- Secure Controlled Access
- Visitors & Guest Access Point
- Staff Access
- Service & Delivery Vehicle Access

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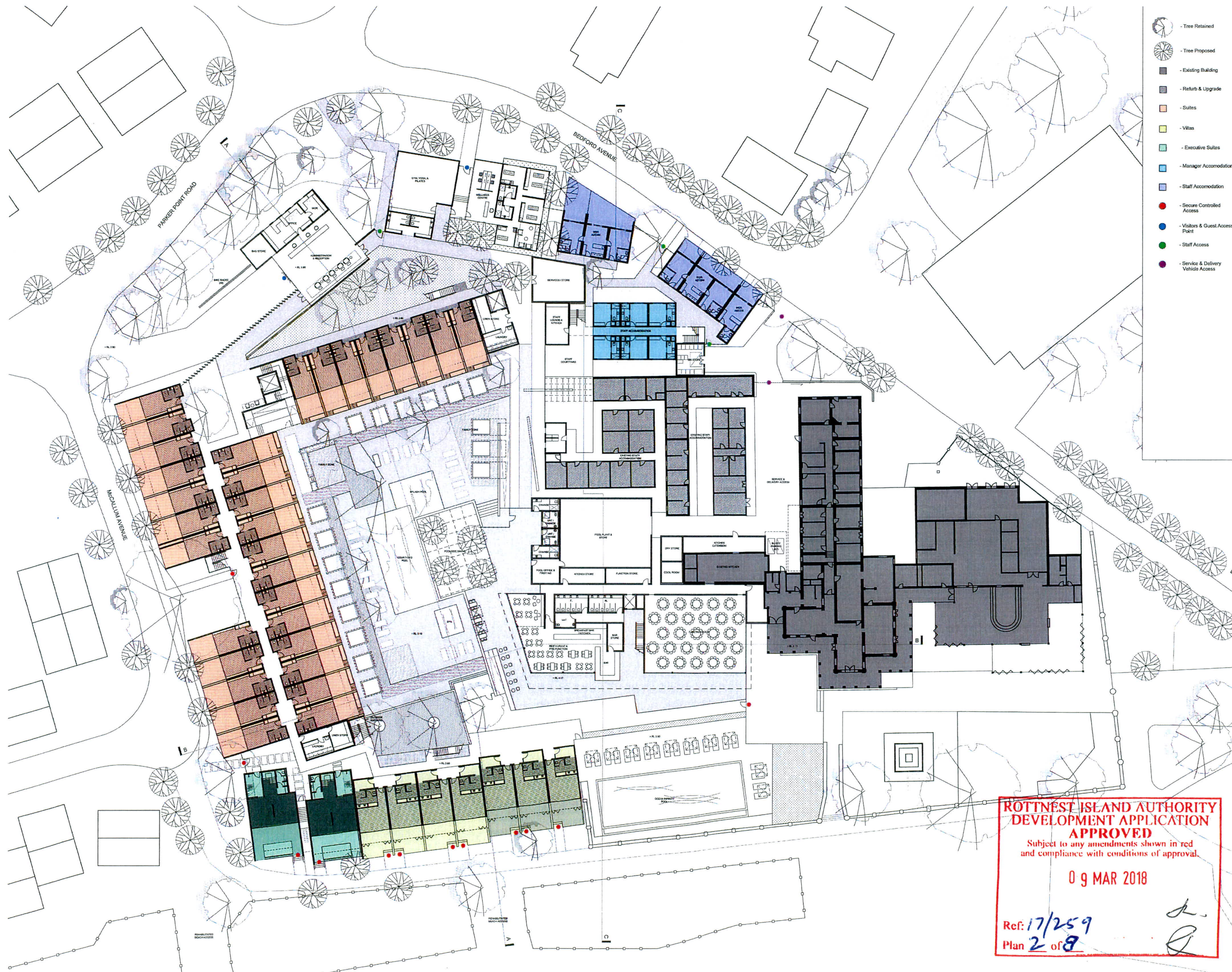
REV	DATE	DESCRIPTION	BY
B	03.11.17	ISSUED FOR DA	CM
A	04.10.17	ISSUED FOR DA	CM
Civil:		Pritchard Francis	
Electrical:		HFM Asset Management	
Environmental:		360 Environmental	
Fire Safety:		Stralgen	
Heritage:		Stephen Carlick Architects	
Landscape:		Woodward Design	
Town Planner:		TPG	
ESD:		HFM Asset Management	
Landscape:		Woodward Design	
Waste:		Encycle	
Hydraulic:		HFM Asset Management	
Client:		PRENDVILLE GROUP	

Project: HOTEL ROTTNEEST RESORT
 Drawing Title: SITE PLAN
 Job Number: 16040
 Status: DEVELOPMENT APPLICATION
 Drawn: JIB Scale: 1/200 @ A0
 Checked: CM Approved: JC

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**ROTTNEEST ISLAND AUTHORITY
 DEVELOPMENT APPLICATION
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09 MAR 2018
 Ref: 17/259
 Plan 1 of 8

Drawing Number: DA103
 Revision: B
 VISUAL SCALE 1:200 @ A0



- Tree Retained
- Tree Proposed
- Existing Building
- Refurb & Upgrade
- Suites
- Villas
- Executive Suites
- Manager Accommodation
- Staff Accommodation
- Secure Controlled Access
- Visitors & Guest Access Point
- Staff Access
- Service & Delivery Vehicle Access

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REV	DATE	DESCRIPTION	BY
C	02.11.17	ISSUED FOR DA	CM
B	04.10.17	ISSUED FOR DA	CM
A	28.09.17	PRELIMINARY ISSUE	JB

Civil:	Pritchard Francis
Electrical:	HFM Asset Management
Environmental:	360 Environmental
Fire Safety:	Stategen
Heritage:	Stephen Carrick Architects
Landscape:	Woodward Design
Town Planner:	TPG
ESD:	HFM Asset Management
Landscape:	Woodward Design
Waste:	Enycle
Hydraulic:	HFM Asset Management
Client:	PRENDIVILLE GROUP

Project: HOTEL ROTTNEST RESORT

Drawing Title: GROUND FLOOR PLAN

Job Number: 16040

Status: DEVELOPMENT APPLICATION

Drawn: JB Scale: 1/200 @ A0

Checked: CM Approved: JC

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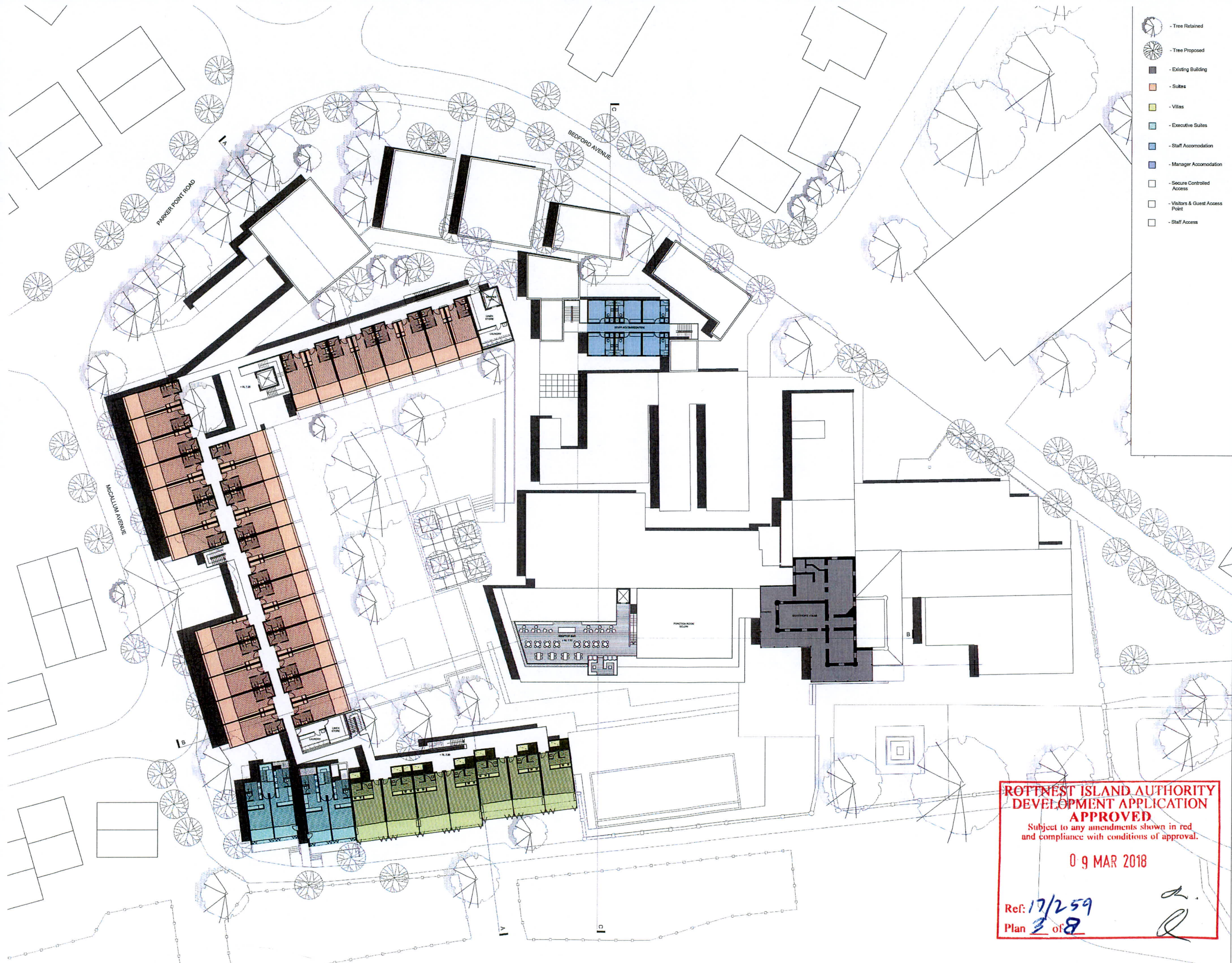
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09 MAR 2018

Ref: 17/259
 Plan 2 of 8

Drawing Number: DA201
 Revision: C

Scale: 1:200 @ A0



- Tree Retained
- Tree Proposed
- Existing Building
- Suites
- Villas
- Executive Suites
- Staff Accommodation
- Manager Accommodation
- Secure Controlled Access
- Visitors & Guest Access Point
- Staff Access

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REV	DATE	DESCRIPTION	BY
B	02.11.17	ISSUED FOR DA	CM
A	04.09.17	ISSUED FOR DA	CM

Civil: Pritchard Francis
 Electrical: HFM Asset Management
 Environmental: 300 Environmental
 Fire Safety: Strategis
 Heritage: Stephen Carrick Architects
 Landscape: Woodward Design
 Town Planner: TPG
 ESD: HFM Asset Management
 Landscape: Woodward Design
 Waste: Encycle
 Hydraulic: HFM Asset Management
 Client: PRENDVILLE GROUP

Project: HOTEL ROTTNEST RESORT

Drawing Title: FIRST FLOOR PLAN

Job Number: 16040

Status: DEVELOPMENT APPLICATION

Drawn: JB Scale: 1/200 @ A0

Checked: CM Approved: JC

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 ADMIN 133 533 565

Drawing Number: DA202 Revision: B

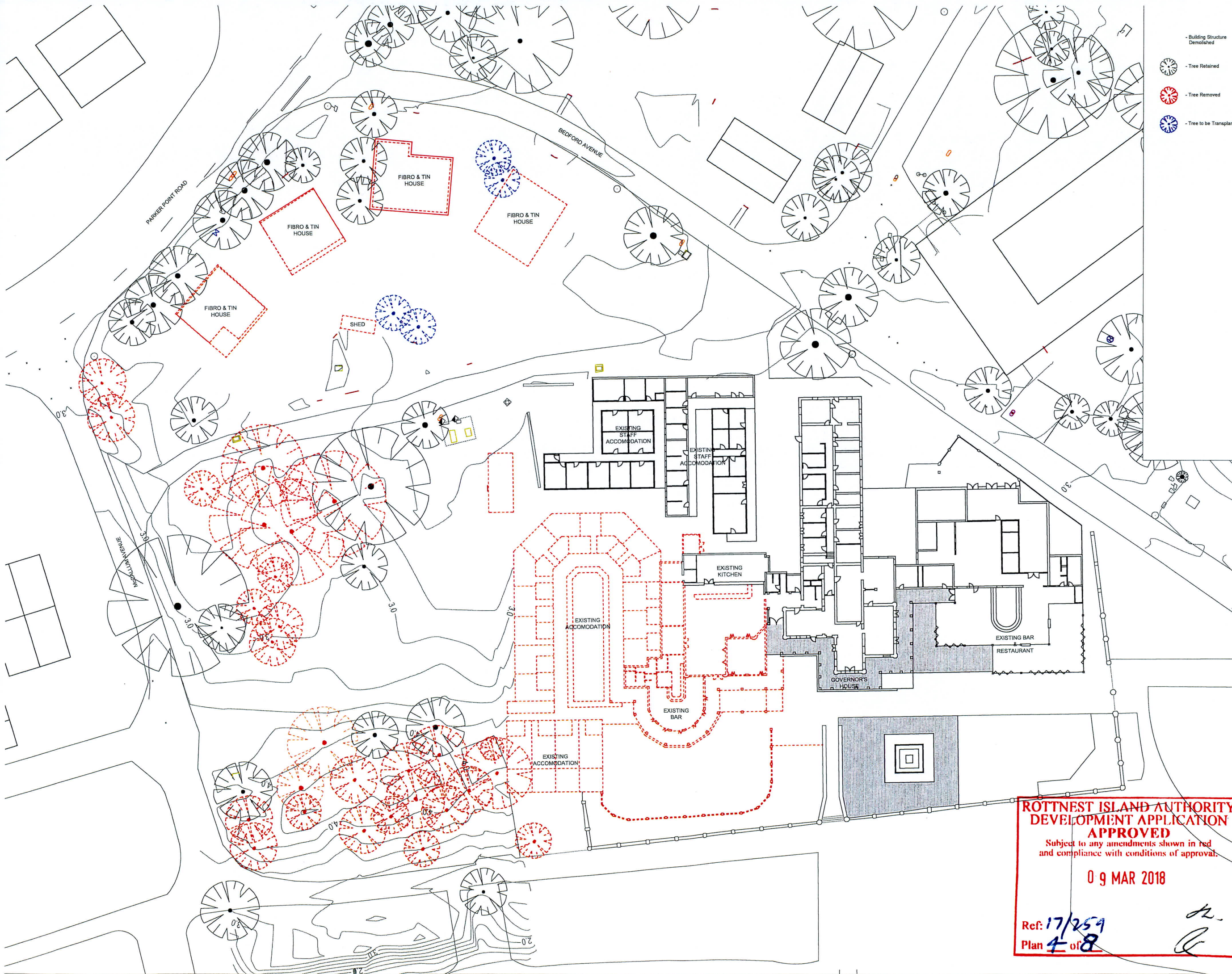
Visual Scale 1:200 @ A0

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09 MAR 2018

Ref: 17/259
 Plan 3 of 8



- Building Structure Demolished
- Tree Retained
- Tree Removed
- Tree to be Transplanted

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B	24.10.17	ISSUED FOR DA	OM
A	04.10.17	ISSUED FOR DA	OM
REV	DATE	DESCRIPTION	BY
Civil:		Pritchard Francis	
Electrical:		HFM Asset Management	
Environmental:		350 Environmental	
Fire Safety:		Stratgen	
Heritage:		Stephen Carrick Architects	
Landscape:		Woodward Design	
Town Planner:		TPG	
ESD:		HFM Asset Management	
Landscape:		Woodward Design	
Waste:		Encycle	
Hydraulic:		HFM Asset Management	
Client:	PRENOVILLE GROUP		

Project: HOTEL ROTTNEST RESORT

Drawing Title: EXISTING & DEMOLITION PLAN

Job Number: 16040

Status: DEVELOPMENT APPLICATION

Drawn: JB Scale: 1/200 @ A0

Checked: OM Approved: JC

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Ref: 17/259
 Plan 4 of 8

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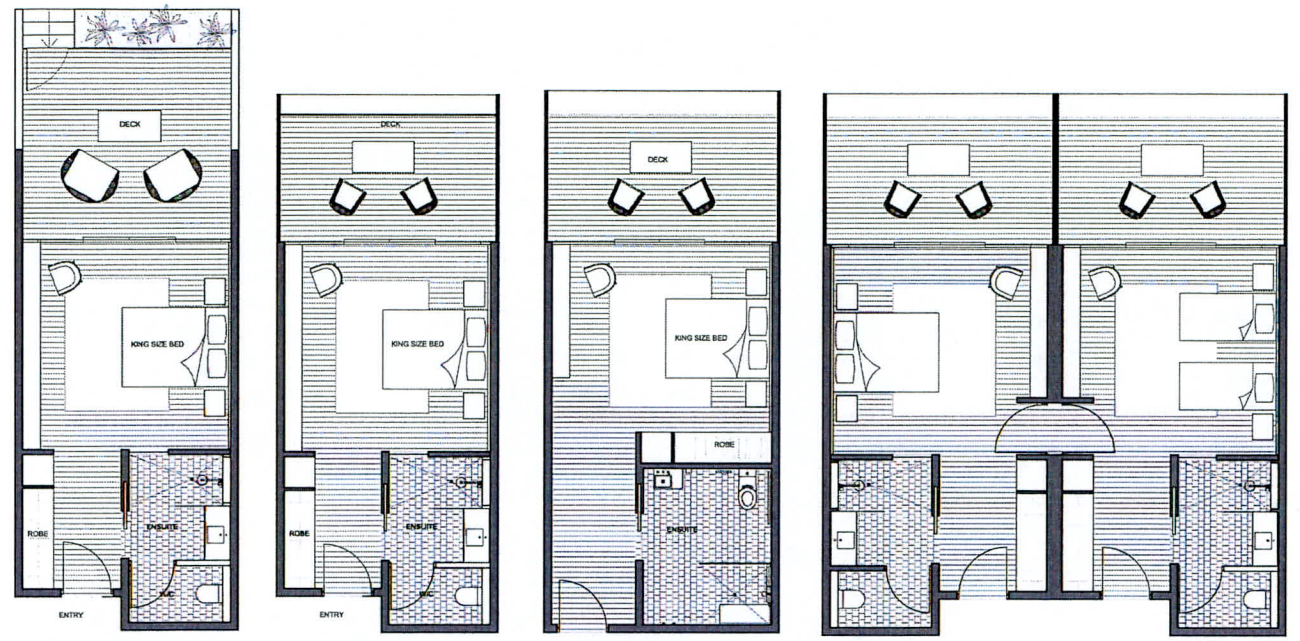
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 ABN: 67 102 302 885
 A/CN: 102 302 885

Drawing Number: DA102
 Revision: B

Visual Scale: 1:200 @ A0

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09 MAR 2018
Ref: 17/259
Plan 5 of 8



SUITE - GROUND FLOOR
INTERNAL AREA - 28M²
EXTERNAL AREA - 20M²

SUITE - FIRST FLOOR
INTERNAL AREA - 28M²
EXTERNAL AREA - 15M²

SUITE - ACCESSIBLE
INTERNAL AREA - 28M²
EXTERNAL AREA - 19M²

SUITE - ADJOINING
INTERNAL AREA - 56M²
EXTERNAL AREA - 20M²

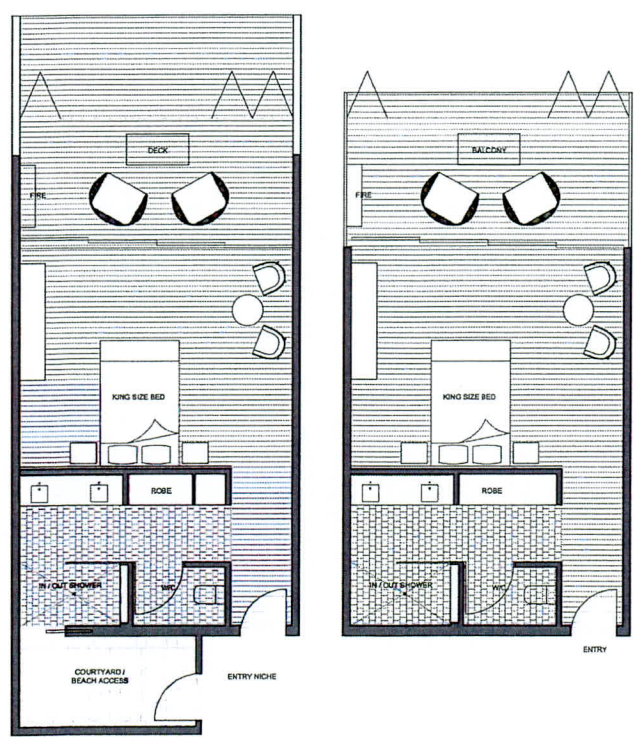
POOL & BAYSIDE SUITES



EXECUTIVE APARTMENT - GROUND FLOOR
INTERNAL AREA - 60M²
EXTERNAL AREA - 45M²

EXECUTIVE APARTMENT - FIRST FLOOR
INTERNAL AREA - 72M²
EXTERNAL AREA - 24M²

EXECUTIVE SUITES



VILLA - GROUND FLOOR
INTERNAL AREA - 43M²
EXTERNAL AREA - 20M²

VILLA - FIRST FLOOR
INTERNAL AREA - 43M²
EXTERNAL AREA - 13M²

OCEAN FRONT VILLAS

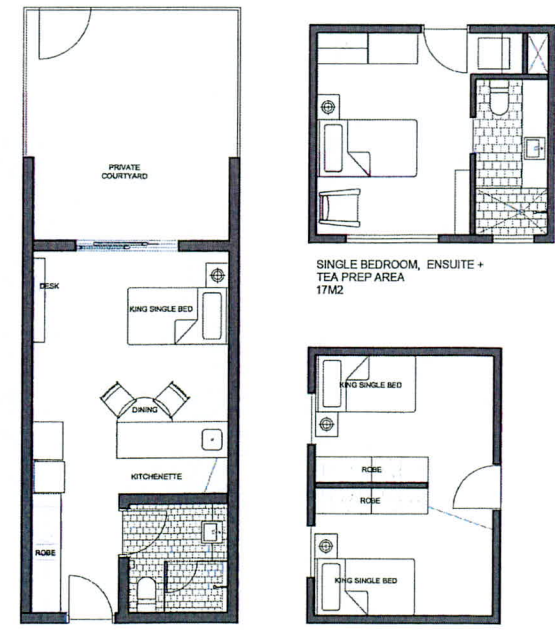


ONE BEDROOM + ENSUITE
INTERNAL AREA - 20M²

ONE BEDROOM + ENSUITE
KITCHEN + LOUNGE
INTERNAL AREA - 38M²

TWO BEDROOM + ENSUITE(S)
SHARED KITCHEN + LOUNGE
INTERNAL AREA - 58M²

MANAGER ACCOMMODATION



ONE BEDROOM + ENSUITE
KITCHENETTE
INTERNAL AREA - 24M²

4 BED (2X BUNK) ROOM
INTERNAL AREA - 17M²

STAFF ACCOMMODATION

REV	DATE	DESCRIPTION	BY
A	04.09.17	ISSUED FOR DA	OM
Rev	DATE	DESCRIPTION	BY
Client:		Pritchard Francis	
Electrical:		HFM Asset Management	
Environmental:		360 Environmental	
Fire Safety:		Stratagen	
Heritage:		Stephen Carrick Architects	
Landscape:		Woodward Design	
Town Planner:		TPG	
EISD:		HFM Asset Management	
Landscape:		Woodward Design	
Waste:		Encycle	
Hydraulic:		HFM Asset Management	
Client:		PRENOVILLE GROUP	

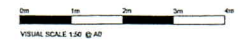
PRENOVILLE GROUP

Project: HOTEL ROTTNEST RESORT
Drawing Title: UNIT PLANS
Job Number: 16040
Status: DEVELOPMENT APPLICATION
Drawn: JB Scale: 1/50 @ A0
Checked: OM Approved: JC
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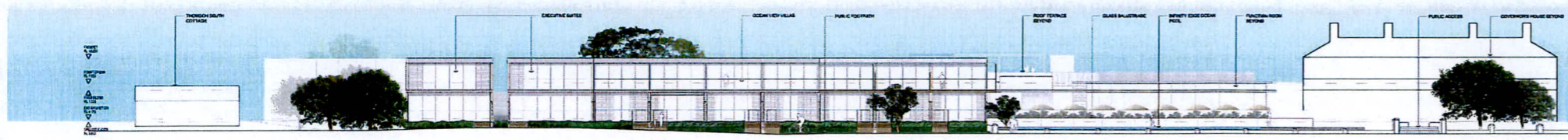
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Revision: A



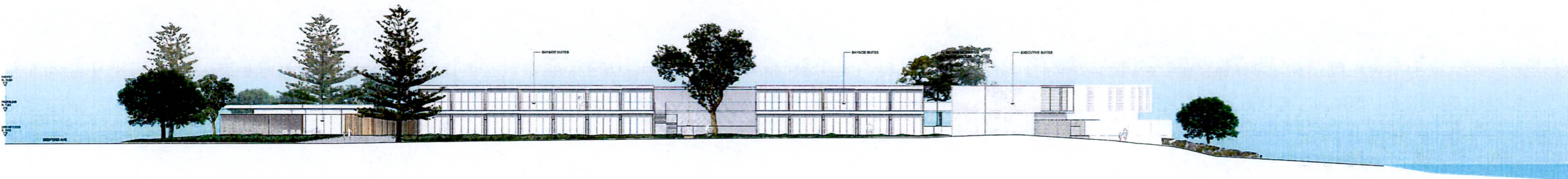
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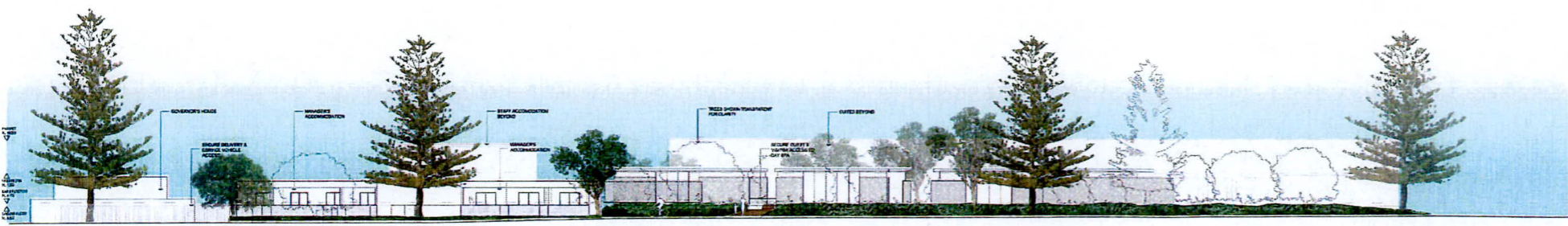
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1 EAST ELEVATION
 1/200 ELEVATION



1 SOUTH ELEVATION - MCCALLUM AVENUE
 1/200 ELEVATION



1 WEST ELEVATION - BEDFORD AVENUE
 1/200 ELEVATION

REV	DATE	DESCRIPTION	BY
B	02.11.17	ISSUED FOR DA	OM
A	04.10.17	ISSUED FOR DA	OM
Rev			
Civil:		Pritchard Francis	
Electrical:		HFM Asset Management	
Environmental:		360 Environmental	
Fire Safety:		Stralgen	
Heritage:		Stephen Carrick Architects	
Landscape:		Woodward Design	
Town Planner:		TPG	
ESD:		HFM Asset Management	
Landscape:		Woodward Design	
Waste:		Enycis	
Hydraulic:		HFM Asset Management	
Client:		PRENDIVILLE GROUP	

Project:
 HOTEL ROTTNEST RESORT

Drawing Title:
 ELEVATIONS

Job Number: 16040

Status: DEVELOPMENT APPLICATION

Drawn: JB Scale: 1/200 @ A0

Checked: OM Approved: JC

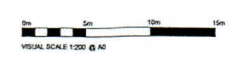
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 JAMES CHRISTOU ARCHITECTS PTY LTD
 ACN 152 931 865

Drawing Number Revision
 DA401 B



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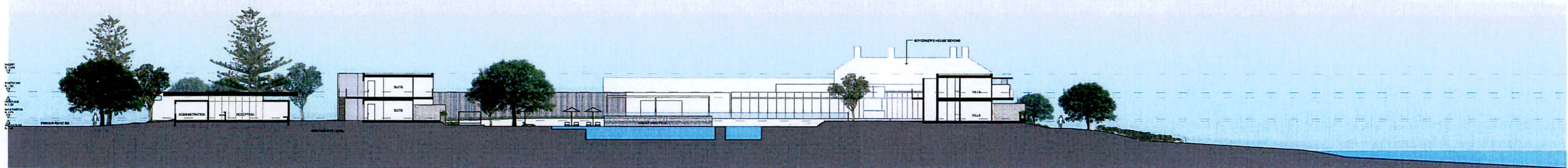
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 Plan 9 of 8

Handwritten initials and signature

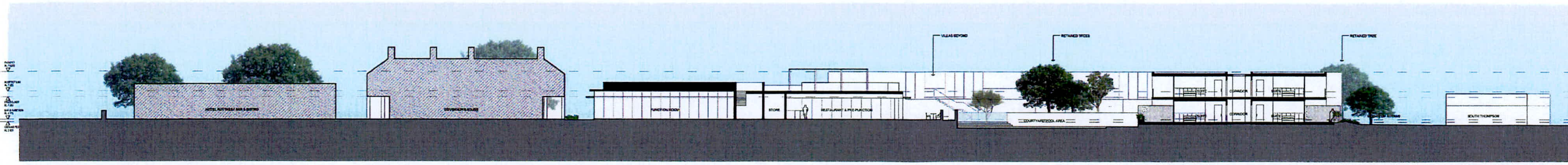
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SECTION AA
 1/200 SECTION



SECTION BB
 1/200 SECTION



SECTION CC
 1/200 SECTION

REV	DATE	DESCRIPTION	BY
B	02.11.17	ISSUED FOR DA	OM
A	04.10.17	ISSUED FOR DA	OM
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Client: PNEDEVILLE GROUP
 Project: HOTEL ROTTNEST RESORT
 Drawing Title: SECTIONS
 Job Number: 16040
 Status: DEVELOPMENT APPLICATION
 Drawn: JB Scale: 1/200 @ A0
 Checked: OM Approved: JC
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 ACH 152 333 885

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 Plan 7 of 8

Drawing Number: DA501
 Revision: B

Visual Scale: 1:200 @ A0