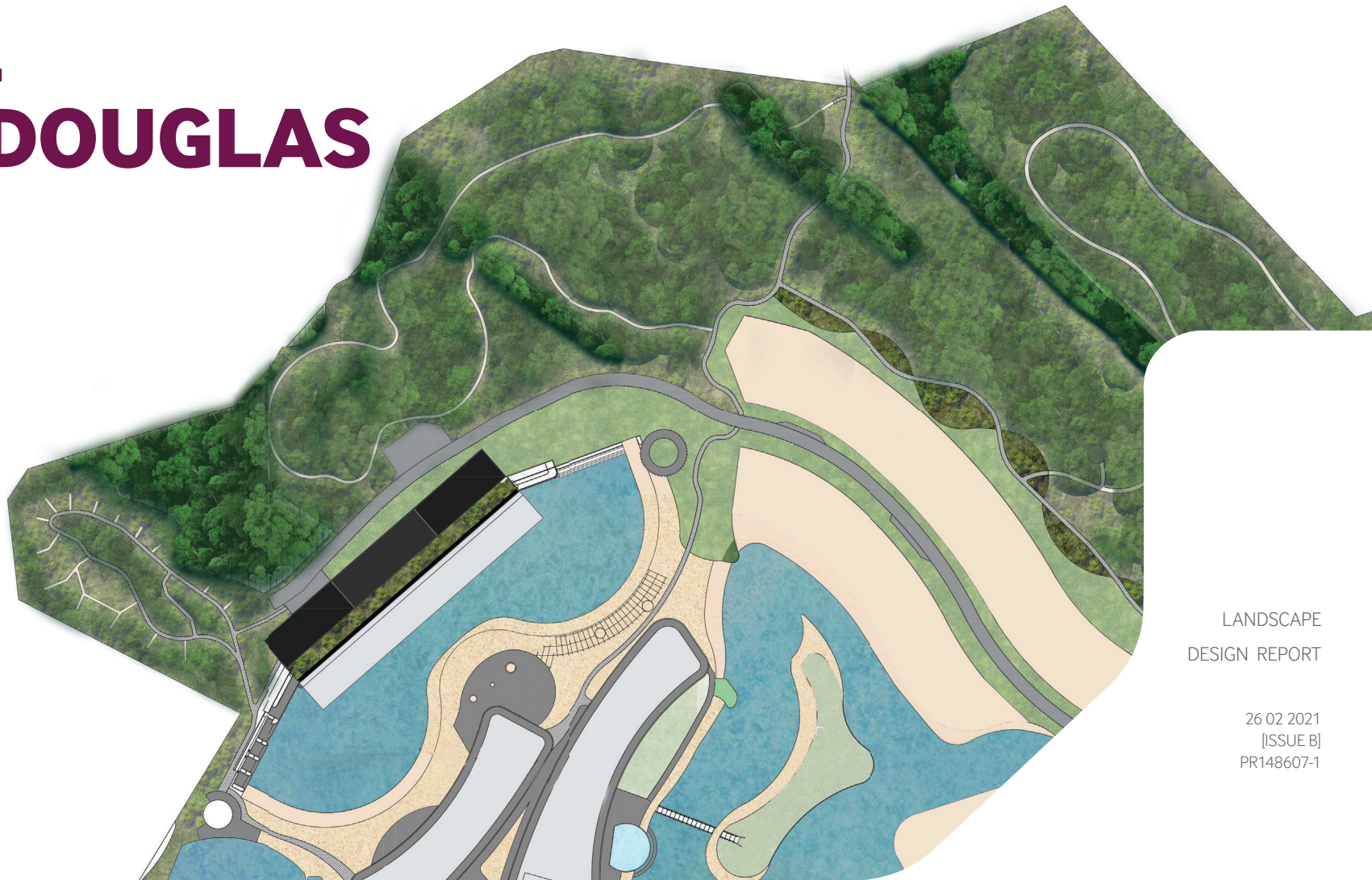


SURF - PORT DOUGLAS



LANDSCAPE
DESIGN REPORT

26 02 2021
[ISSUE B]
PR148607-1

REVISION					
	[B]		26/02/21		
	[A]	DATE	26/02/21	PREPARED BY	
				DH	TC
				DH	TC
				APPROVED BY	
					TC

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1.0

**SITE
UNDERSTANDING**

1.1 CONTEXT

Local context



The site is located on the tropical north coast of Queensland, 7 kilometres south south-west of Port Douglas. Adjacent to the Coral Sea, the mountainous ranges within the Mowbray National Park provide a backdrop over the site. The Great Barrier Reef lies to the east of the site within the Coral Sea. The Captain Cook Highway is the main arterial road along the coast connecting to Cairns, south of the site, and Mossman north, of the site. Coastal features adjacent to the site include 4 Mile Beach (Port Douglas), Alexandra Reefs and Oak Beach. The Bump Track lies west of the site which connects rainforest trails to Kuranda in the south.

Site context



The site is currently a sugar cane farm adjacent to the Mowbray River. Access to the site is from the Captain Cook Highway. The site is bordered to the north with existing estuarine and coastal open woodland vegetation. Sugar cane farming and rural residential allotments are land uses surrounding the site south. A future pedestrian connection is proposed through to Port Douglas ,with private vehicles the predominant mode of access around the site.

1.2 SITE ANALYSIS

The site provides a number of key opportunities and challenges. Climatically the site is subject to humid summers. Rainfall for the site is concentrated in summer with monsoonal development contributing to large amounts of rain in short periods during the summer. Winters are mild and dry with little rainfall.

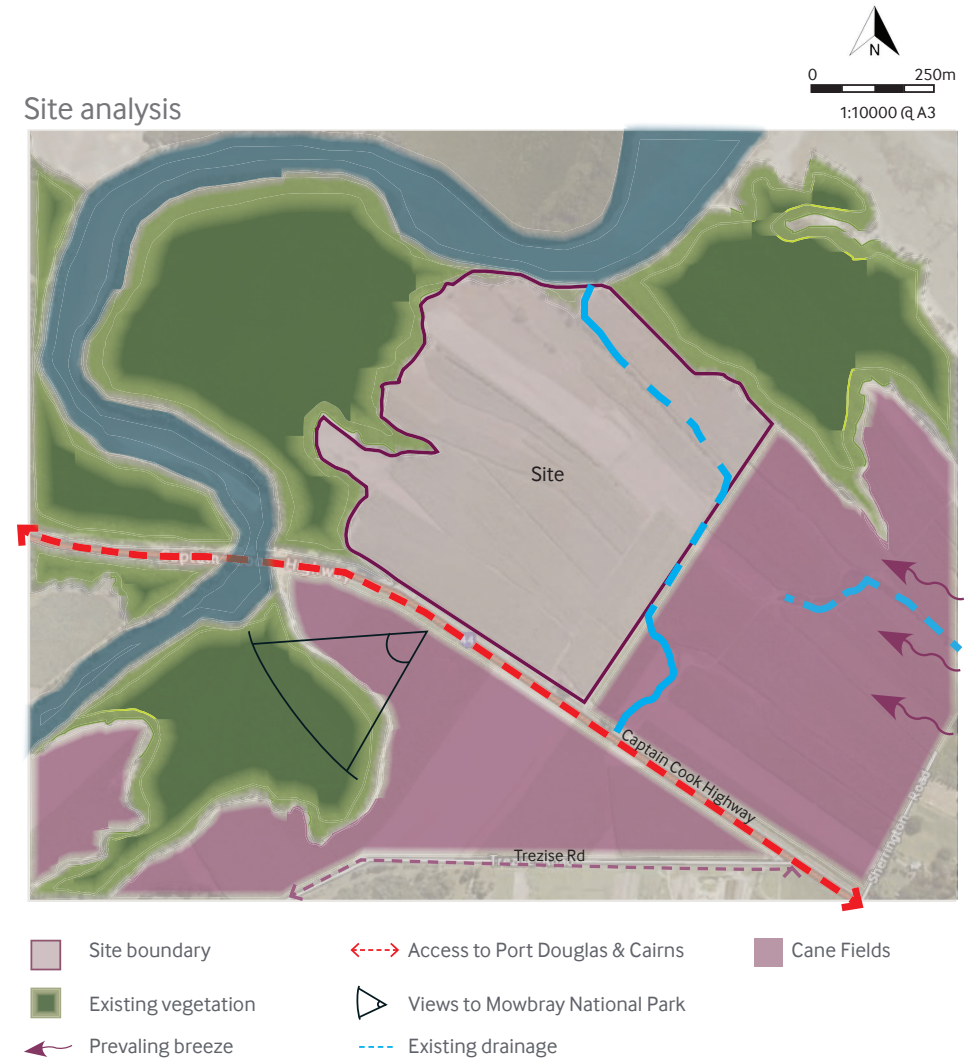
Site soils range from dense clays closer to the Captain Cook Highway through to sandy soils to the north of the site, adjacent to the Mowbray River (source: Geo-technical Studies - Port Douglas Wave Park by Golder Associates dated: 5 Feb, 2021)

Vegetative patterns are aligned with the soil types, as well as the proximity to the saline environment of the Mowbray River mouth.

Key opportunities of the site include:

- Connection to endemic vegetation on the areas to north-west and north-east of the site.
- Access to the Mowbray River frontage at the north of the site.
- Access to the Captain Cook Highway for vehicular traffic to Port Douglas and Cairns.
- View to ranges within the Mowbray National Park (south of the site).
- Existing drainage line through the site.
- Prevailing breezes are from the east/south east provide comfort from the tropical summer heat.

Site analysis



2.0

LANDSCAPE DESIGN

2.1 VISION STATEMENT

The landscape vision for Surf PD aspires to celebrate the surrounding natural environment, weaving together estuarine, wet tropical and dunal environments to accentuate the bold architectural premise proposed for the development.

The site is located adjacent to the Mowbray River which is lined by a combination of sodic and sandy soils. The vision for the site is that the footprint from these vegetation types is woven through the various landscape compartments of the resort to build a robust and vigorous landscape design solution.

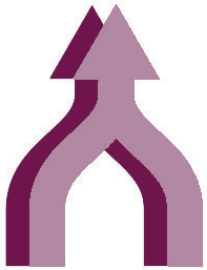
The resorts focus on water will manifest as the external rehabilitated landscapes are transitioned through a series of tropical, dunal and beach environments.

The focal point of the Surf PD, the large surf pool and lagoon will provide an opportunity to celebrate coral cay environments of the Great Barrier Reef.

It is envisioned that both the residential and hotel areas will facilitate opportunities to weave external and internal environments through the use of innovative design solutions.



2.2 DESIGN DRIVERS



CONFLUENCE

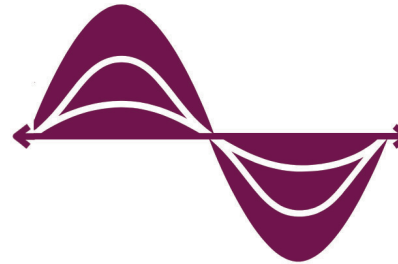
The meeting of several environs; the landscape design philosophy will strive to creatively bring together these environments in a cohesive design response.



REHABILITATION

The site design response will focus on the rehabilitation and extension of the retained vegetation on the site.

The design will celebrate those vegetation species found in and around the site and, as appropriate, will feature those species in the planting palette.



FLOW

Flow will be given a number of meanings throughout the design.

The flow and re-use of water will be integral to the desire to minimise external water usage, and maximising the landscape outcomes.

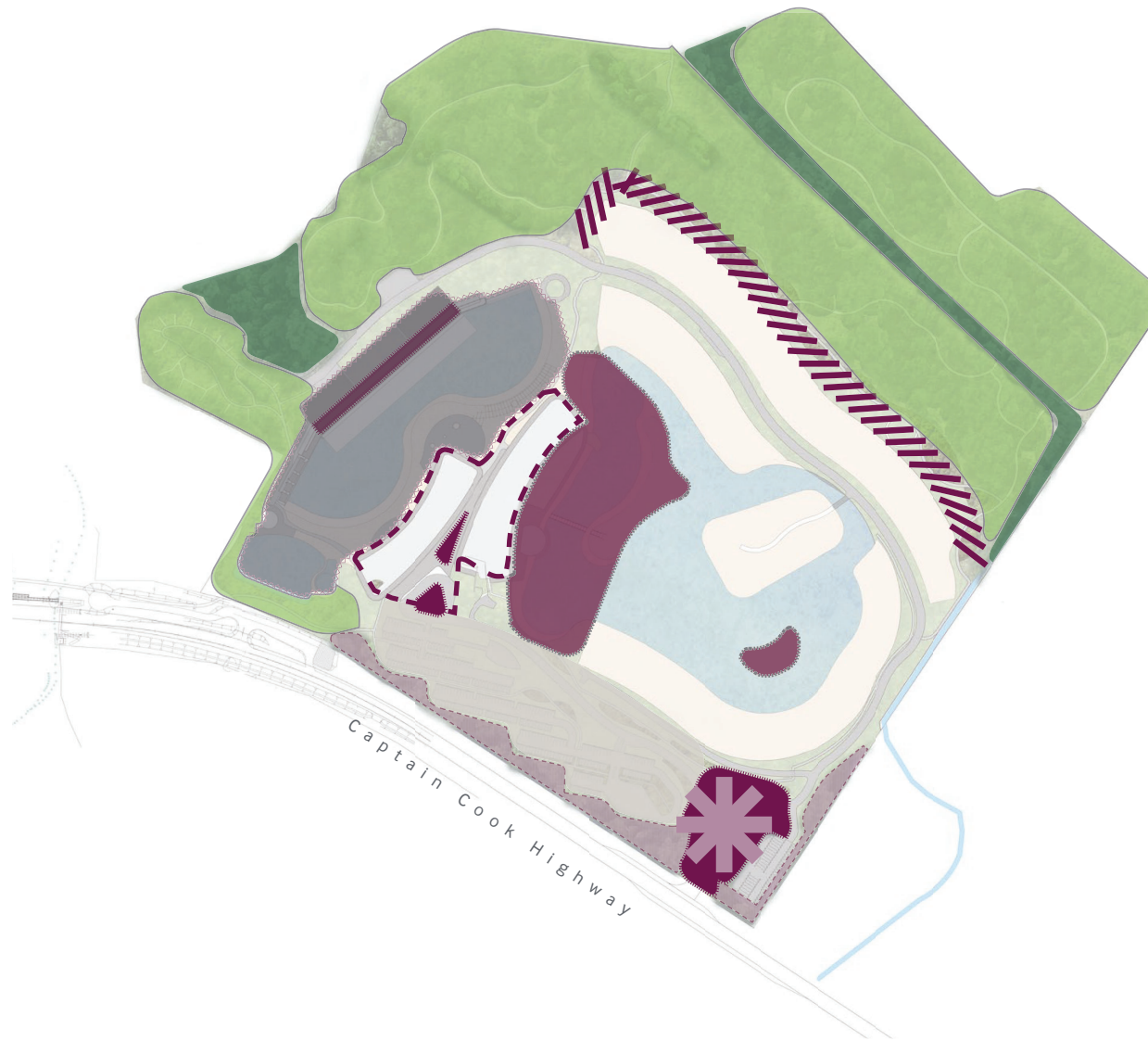
In addition flow will be critical in the movement of vehicles, pedestrians and users throughout the site.














WEAVE

The landscape design will be a weave of variation design themes, carefully sited, to provide a healthy, robust landscape to provide the scene for the project.

2.3 LANDSCAPE MASTER PLAN



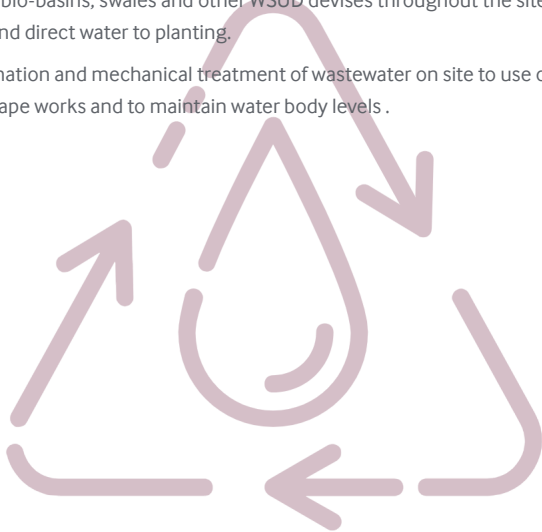
LEGEND

-  Rehabilitation area -
Reveg planting to soil conditions
-  Entry -
Feature landscaping
-  Captain Cook Highway -
Mounded buffer planting
-  Carparking area -
Planting in WSUD swales
-  Hotel precinct -
Foreshore-type feature planting
-  Wave pool precinct -
Foreshore-type feature planting
-  Feature planting area -
Endemic tropical feature planting
-  Lagoon precinct -
Coastal/island species planting
-  Linear park -
Tree planting over turfed batter
-  Residential area -
Planting for outlooks and privacy
-  Existing vegetation -
To be retained

2.4 LANDSCAPE WATER USE STRATEGY

The harnessing of a number of water source types, and the considered use of water on-site for the landscape works will provide for a sustainable backdrop to the resort. The following measures are proposed for the project:

- Zonal planting - grouping plants with similar irrigation requirements together. This includes prioritising in larger areas those species which do not require on going irrigation after establishment.
- Reuse of captured rainwater for landscape both at a site wide scale and at each of the proposed residential buildings.
- Use of bio-basins, swales and other WSUD devises throughout the site to treat and direct water to planting.
- Desalination and mechanical treatment of wastewater on site to use on landscape works and to maintain water body levels .



WATER SOURCE	USE					
Rain water capture	Residential landscape	Water bodies	Revege planting (to establishment only)	Feature planting	Car park planting	Road side planting
Treated groundwater	Residential landscape	Water bodies	Revege planting (to establishment only)	Feature planting	Car park planting	Road side planting
Mechanically treated waste water	Residential landscape	Water bodies	Revege planting (to establishment only)	Feature planting	Car park planting	Road side planting
Water sensitive urban design devices	Residential landscape	Water bodies	Revege planting (to establishment only)	Feature planting	Car park planting	Road side planting

*Town water supply - only used to suppliment above

2.5 VISUAL AMENITY

The subject site is adjacent to both an area with high landscape values and a scenic route as per Douglas Shire Council's Landscape Values Overlay Map LV-021. The site masterplan has been set out with consideration to the Landscape Values Overlay Code in the Douglas Shire Planning Scheme 2018.

Landscapes with desired qualities outlined within the planing scheme (refer table SC6.6.4.a) include forested mountains, grassy hillsides, coastal lowlands, cane-fields, coastal fringes, inland watercourses, and urban areas of local townships.

At a high level, the site masterplanning addresses these valued landscape in the following ways:

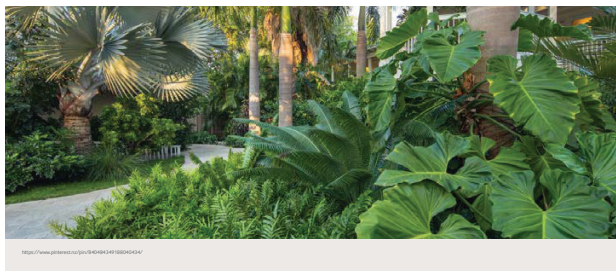
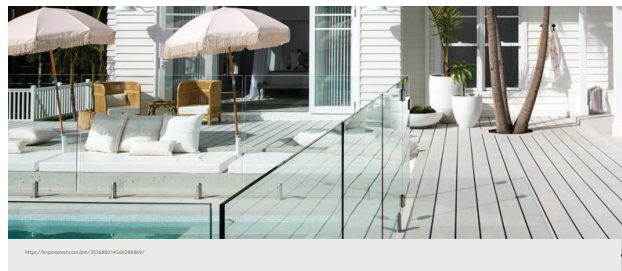
1. Lowland vegetation is retained and expanded upon to the north-west and north east boundaries of the site increasing the desired local vegetation areas.
2. Buffer planting is proposed along the Captain Cook Highway (scenic Route per LV-021), extending along the south eastern boundary of the site, to screen parking and other facilities along this boundary.
3. Views from the highway are maintained to the forested mountains.
4. The profile of the proposed buildings will consider the scale of the surrounding landscape.
5. The curvilinear shapes of the building provide complimenting forms in a landscape dominated by natural features.
6. The entry feature has been set away form the natural feature that is the Mowbray River, thus maintaining the river's character type in the landscape.



3.0 **CHARACTER**

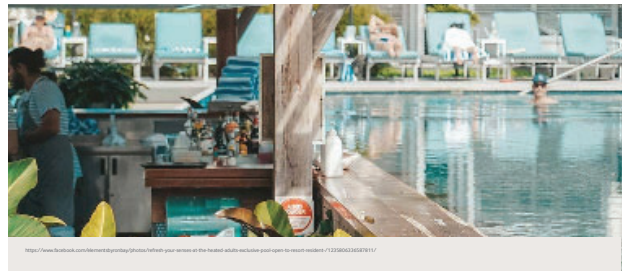
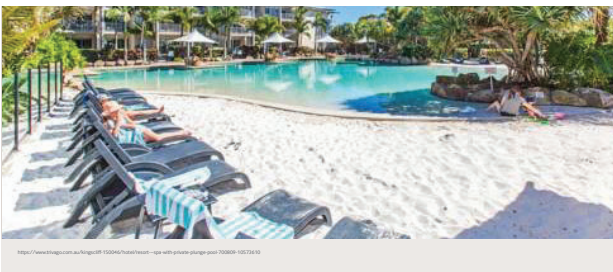
3.1 WAVE POOL CHARACTER

The wave park will look to create a beach like atmosphere adjacent to the hotel precinct. The planting will feature beach and dunal type vegetation with occasional palms providing feature planting. The materials will be minimalistic with soft grains, sand and textures for a smooth transition between the wave park and poolside. The coastal setting of soft whites, blues and greens will promote a sense of relaxation. Shade and over head structures provide sun smart options and also creates personal space in a some what busy environment. The wave pool generator will be covered in lush tropical palms and vegetation.



3.2 HOTEL PRECINCT CHARACTER

The landscape character of the hotel precinct will look to blend the beach atmosphere of the surrounding wave pool and lagoons inside into a series of tropical oasis. Outdoor areas beneath the building structures feature beach and dunal type vegetation in blue-green tones reminiscent of those plants found naturally occurring on surrounding beaches. Planters on and within the building will feature a more tropical planting drapping parts of the building in vegetation. The landscape design will carefully consider ongoing maintenance requirements and life cycle costs associated with green building interfaces.



3.2.1 HOTEL PRECINCT DETAIL PLAN



GROUND LEVEL

- 1 Hotel entry signage set in coastal planter beds
- 2 Indoor multi-level planting feature with plants drapping out of planters.
- 3 At grade covered connection with dunal/beach planting
- 4 Lagoon front lawn
- 5 Tropical feature garden area

3.2.2 HOTEL PRECINCT - INDICATIVE CROSS SECTION



3.2.3 HOTEL PRECINCT - INDICATIVE CROSS



SCALE 1:1000 (QA1 / 1:2000 (QA3

C:\Q148607\148607 PORT DOUGLAS WATER PARK\148607-1 - LANDSCAPE\c_technical\c4_in\design\c4_a1 PRESENTATIONS\PR148607-1 PORT DOUGLAS WATER PARK (20210226 - REV A).INDO

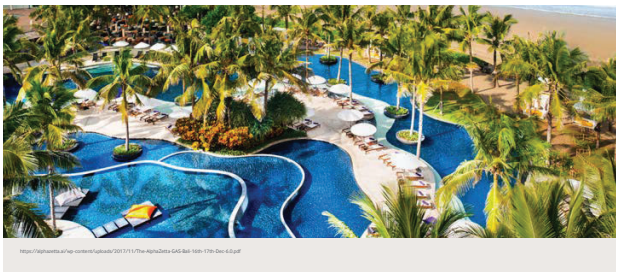
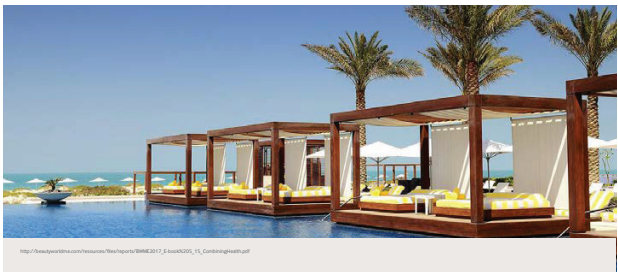
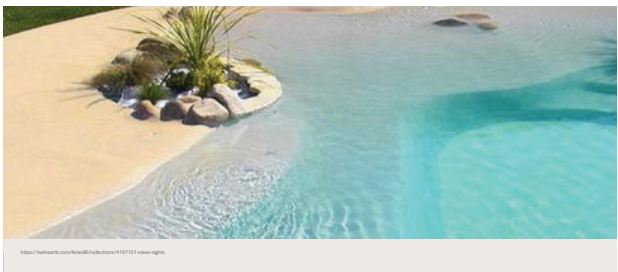
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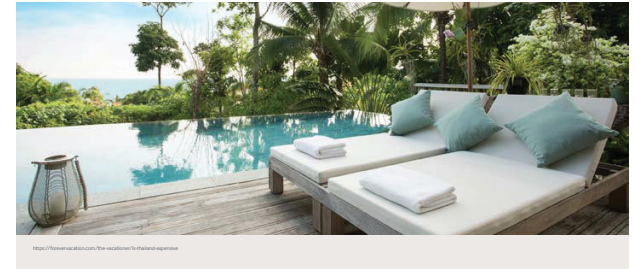
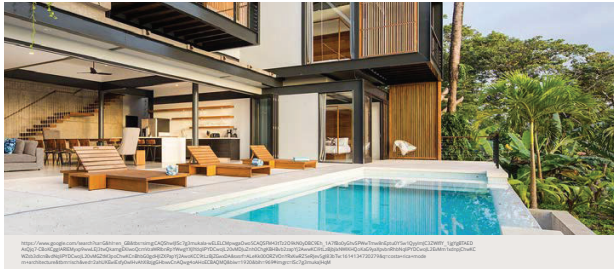
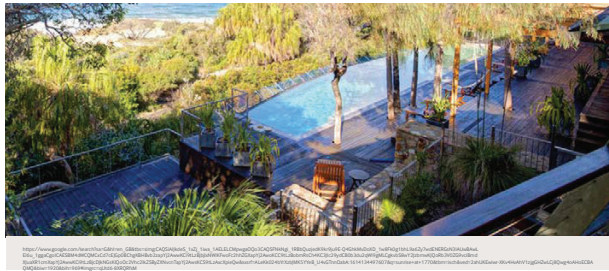
3.3 LAGOON CHARACTER

The landscape character around the lagoon takes its cues from idyllic tropical coral cays in the adjacent Great Barrier Reef. Tall tropical palms stand as beacons over the surrounding lagoon areas. Soft sands give way to coastal ground covers in blue greens.



3.4 LAGOON RESIDENTIAL

Residences beside the lagoon are proposed to have a North Queensland tropical island rainforest feel. Lush, dark green vegetation will fill voids between the buildings creating privacy between each of the villas. Views between the villas and the lagoon will be unrestricted. Modern feature planters are proposed, providing private open spaces within the villas.



3.5 PARKSIDE RESIDENTIAL

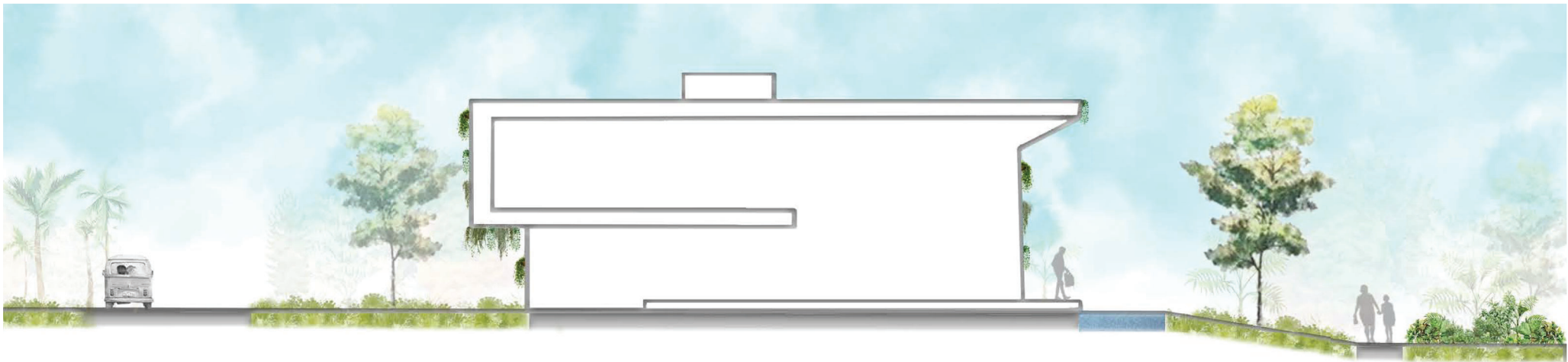
Parkside residential offerings sit in the transition zone between the regeneration areas and the proposal's heart. It is envisioned these buildings will have views across a rolling, shaded grassed batter. The detailed design of these residences would give opportunities for screens with climbers to soften the line between nature and the built form. Screening between the residences will provide crucial privacy as well as further habitat.



Source: RPS



3.5.1 INDICATIVE - PARKSIDE RESIDENTIAL CROSS SECTION



3.6 REGENERATION ZONE

The regeneration zone surrounding the heart of the proposal will build on the existing habitats adjacent to the site. Pathways through the regeneration zones will provide access for users to explore and interact with the various environments. The different environments proposed in the rehabilitation zones will be guided by the site soils and levels of salinity. A lookout over Mowbray River is proposed as a picnic and day-use area.



3.6.1 REGENERATION AREA - INDICATIVE CROSS SECTION



4.0 PLANTING

4.0 PLANTING

The planting palette is driven by the expansion and strengthening of the surrounding natural environs. Local endemic species play a crucial role in the longevity of the landscape outcomes particularly at the periphery of the development. These plants weave their way into the heart of the development in which feature planting compliments the coastal themes of the development. Plants have been nominated for their tolerance to North Queensland rainfall patterns and consider ongoing maintenance and lifecycle costs.

The nominated species are a celebration of tropical North Queensland and highlight the special attributes of the those plant communities.



VANDASINA retusa



MELALEUCA leucadendra



GAHNIA aspera



DERRIS trifoloata



CAPPARIS lucida



ALLOPHYLLUS cobbe



SCOLOPIA braunii



PITTOSPORUM revolutum



GLOCHIDION benthamianum



CLERODENDRUM longiflorum



BREYNIA cernua



ACACIA flavescens

PLANTING



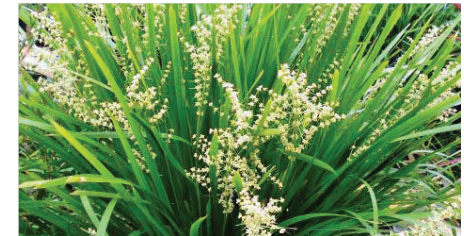
VITEX rotundifolia



TRIANTHEMA portulacastrum



SARCOCORNIA quinqueflora



LOMANDRA hystrix



CANAVIA rosea



ARTANEMA fimbriatum



MIMUSOPS elangi



HARPULLIA rhyticarpa



EUGENIA reinwardtiana



DEPLANCKEA tetraphylla



CASTANOSPERMUM australe



ANTIDESMA bunius



Wave park Entrance Hotel Lagoon

Revegetation Lagoon residential Park side residential

