#### C24005 LOT 2654 BAYVIEW ROAD, KARRATHA

TRAFFIC IMPACT STATEMENT & PARKING ASSESSMENT

RIVER ENGINEERING March 2024

Prepared for: RFF Pty Ltd

Prepared by: River Engineering Pty Ltd

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ISSUE	REV	DATE	CHECKED	APPROVED	DESCRIPTION
1	Α	25/03/2024	SM	PB	Draft for Client Review
2	В	25/03/2024	SM	PB	Issued For Development Approval

File: C24005 Bayview Traffic Impact Statement - B



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#### **APPENDICES**

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Appendix C – Existing Site Plan

Appendix D – Future Karratha Development

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#### 1 EXISTING SITE INFORMATION

River Engineering have been engaged by RFF Pty Ltd to prepare a desktop Traffic Impact Statement for the proposed redevelopment of Lot 6254, Bayview Road, Karratha.

The site is located approximately 4km from the Karratha central Post office. The site is located at 275 (Lot 2654) Bayview Road, Gap Ridge, (Landgate Mapping 19/03/2024). The total area of the site is noted by Landgate as 6.3028 Ha. The site location is shown in **Figure 1** below.

City of Karratha Town Planning Scheme identifies the Site as Tourism zone. City of Karratha can permit a Hotel Land use if granted through a Development Approval. City of Karratha Town Planning Scheme Map for the Site is located within **Appendix A**.

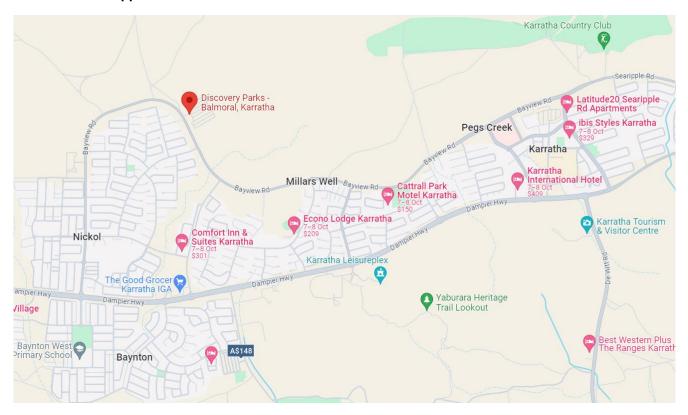


Figure 1 - Site Location

#### 1.1 Existing Development

The existing development comprises of the following:

- The Existing Site has been developed as a Caravan Park with 240 caravan bays & 65 visitor and staff parking bays.
- Care Takers house (1 parking bay)
- Managers Residence (2 parking bays)
- Reception (103m2)
- Small Convenience Store (103m2)
- 2x Laundry Buildings (Guests only)

A copy of the Existing Site Plan is presented within Appendix C.



#### 1.2 SURROUNDING ROAD NETWORK

The Site has only one connecting road, Bayview Road, which is located along the west side. Bayview Road, generally, runs east west across the main potion of the Karratha town site. Bayview Road has the following properties:

- Single (two-way) carriageway
- Approximately 10.1km long
- Approximately 8.2m wide seal and 20m wide Road Reserve.
- According to MRWA online mapping, Bayview Road is 60km/h speed adjacent to the development but changes throughout the length of the road.
- MRWA describes Bayview Road as a Local Distributor Road under the MRWA road hierarchy.

The existing site access is from Bayview Road via a standard cross-over which is 9m wide.

#### 1.3 Existing Traffic

MRWA advertises traffic data for the Bayview Road via their TrafficMap traffic data mapping. MRWA Traffic Data is available for the following:

- Bayview Road between Bathgate Road and Tilbrook Close.
- Nickol Road, south of Bayview Road and Nickol Road intersection.

Traffic Data for these two locations has been presented within Figure 2 below.



Figure 2 - Existing Traffic Data MRWA

#### 1.4 Standard Trip & Parking Generation Rates

Standard Trip Generation Rates for both existing and proposed developments have been developed using relevant state government, local government and private generation publications. The State Government recommend Traffic and Parking Generation Rates are sourced from the following:



- Western Australian Planning Commission (WAPC) Transport Impact Assessment Guidelines, Volume 2 –
  Planning Schemes, Structure Plans and Activity Centre Plans (August 2016);
- Guide to Traffic Generating Developments, Roads and Traffic Authority (RTA), New South Wales. (Version 2.2 October 2002);
- TIA Guidelines; New South Wales Roads & Maritime Services (RMS, formerly the Roads and Traffic Authority) Guide to Traffic Generating Developments (Issue 2.2, October 2002);
- New South Wales Roads & Maritime Services Guide to Traffic Generating Developments Updated traffic surveys (TDT 2013/04a, August 2013); and
- Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition (September 2017).

Trip Generation Rates applicable for this development are presented within the below Table 1.

Currently the existing development is closed pending redevelopment. A traffic count survey was not possible.

Table 1 - Trip Generation Rates

	Daily Traffic	Peak Hour (8:00 to 9:00)	Peak Hour (5:00 to 6:00)
	(Trips / Day)	(Trips/ Hour)	(Trips/ Hour)
		AM	PM
Caravan Park Tenants	3 per site	0.4 per site*	0.4 per site
Hotel	3 per room	0.4 per room*	0.4 per room
Office/Staff	10 / 100m2	2 / 100m2	2 / 100m2
Convenience Store	12x peak hour rate	0.66*A(m2)*	0.66*A(m2)
Mangers Residence	9	0.8	0.8
Park House	9	0.8	0.8
Hotel	3 per site	0.4 per site*	0.4 per site
Restaurant / Bar	60 / 100m2	5 / 100m2	5 / 100m2

<sup>\*</sup> No data is available, assumed same as opposite peak.

#### 1.5 Traffic Distribution

River have estimated the distribution of traffic on the adjacent road network. The following assumptions have been made to estimate the traffic distribution:

- 75% of traffic leaves in the AM peak hour and 25% arrives according to Austroads guidelines.
- 65% of traffic returns in the PM and 35% leaves according to the Austroads Guidelines.
- 75% of traffic is coming from the town centre or going to the town centre in the southeast direction.
- 25% of traffic is heads west along Bayview Road or returns from the west direction.
- 50% of restaurants traffic is sourced from the Hotel guest and don't generate additional traffic.
- 45% of hotel guests are business professionals.
- 95% of hotel business professionals operate peak hours before 8am and return before 5pm
- 30% of the hotel guests turnover each day between 9am 10am for check-out and between 2pm -3pm for check-in.
- 75% to 95% Average Occupancy of the Hotel.



#### 1.6 Model Split

River has estimated the model split for the existing development. Generally, there is little opportunity for alternative modes of travel to/from the Site MRWA Traffic Data suggests that 0.5% of trips would occur using the pedestrian networks by walking or cycling. Public Bus services only operate a few times a day and mainly along Dampier Road. There are no public bus services along Bayview Road adjacent to the Site.

#### 1.7 Traffic Generation Existing

Existing Traffic Generation for the Site has been estimated as presented within Table 2 – Traffic Generation.

Table 2 – Traffic Generation

	Gross Floor Area	Daily Traffic	AM Peak Hour (8:00	PM Peak Hour (5:00
	(GFA) / Number	(Trips / Day)	to 9:00)	to 6:00)
	Sites		(Trips/ Hour)	(Trips/ Hour)
Caravan Park	240 Sites	720 trips / day	96 trips	96 trips
Tenants				
Office/Staff	206 GFA	20.6 Trips	0 trips <sup>1</sup>	0 Trips <sup>1</sup>
Convenance Store	95 GFA	188.1 Trips	15.7 Trips	15.7 Trips
Mangers Residence	1 Residence	9	0.82	0.82
Park House	1 Residence	9	0.82	0.82
Total		946.7	113.3	113.3

<sup>\*</sup> No Data Available

<sup>2</sup> Manager and Park Residence internal trips only.

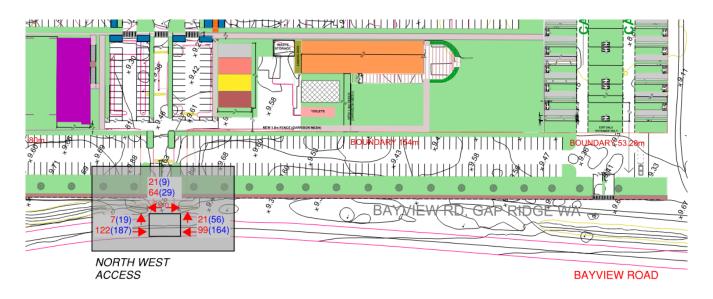


Figure 3 – Existing Traffic – AM(PM)

<sup>&</sup>lt;sup>1</sup> Staff attend site outside of peak hour



#### 1.8 Future Surrounding Development

River have reviewed available information on any surrounding development in the area. These developments have been assessed as not to impact future development of the site. However, a clear outline of these future developments has been presented within **Appendix D**.



#### 2 DEVELOPMENT TRAFFIC

#### 2.1 Proposed Development

The site is proposed to be developed as follows:

- A. New Hotel with Hotel Licensed bar and Beer Garden
- B. New Restaurant

The proposed development has the following key traffic elements:

- Hotel Rooms 928 rooms
- Bar 472m2 GFA
- Restaurant 760.32m2
- Managers Residence 1 house

A copy of the proposed Development Plan has been provided within Appendix B.

#### 2.2 Proposed Access

It is proposed to retain the existing access. It has been assumed that the predominant traffic flows will be towards the town site. Therefore, 75% of traffic will move between the site and town and 25% away from town, west of site. Current operators of the site have informed that the existing crossover access operates acceptably. Therefore, there is no plans to modify the existing intersection.

#### 2.3 Traffic Generation Development

Traffic generation for the existing site has been estimated using the trip generation rates presented above.

Table 3 - Traffic Generation

	Gross Floor	Daily Traffic	Peak Hour (8:00 to 9:00)	Peak Hour (5:00 to 6:00)
	Area (GFA) /	(Trips / Day)	(Trips/ Hour)	(Trips/ Hour)
	Number Sites			
Hotel Rooms	928	2,784 Trips	95% occupancy	95% occupancy
			45% professionals (off peak)	45% professionals (off peak)
			1/3 <sup>rd</sup> traffic reduction for Check-	1/3 <sup>rd</sup> traffic reduction for Check-
			in/Checkout	in/Checkout
			40% peak hour	40% peak hour
			Total – 128 Vehicles	Total – 128 Vehicles
Mangers	1 Residence	9 Trips	0.8 Trips	0.8 Trips
Residence				
Restaurant /	1232 m2	739 Trips	Not open	61.6 (50% internal use) = 31
Bar				Trips
Total		3,532 Trips	129 Trips	159 Trips



Figure 4 below shows the additional traffic generated from the proposed development and assigned to the Road network.

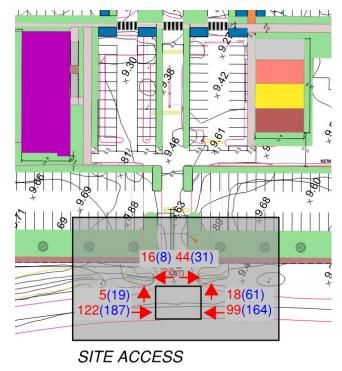


Figure 4 – Development Traffic AM(PM)

A comparison of the existing traffic to the proposed traffic estimated shows that there is minimal increase in traffic generation by the site. It is estimated that only <u>16 additional trips in the AM peak</u> and <u>46 additional trips in the PM peak hour</u>.

Austroads suggests that traffic should not be increased on any section of road by more than <u>100 vehicles in one</u> <u>direction</u> without further assessment. The proposed development has been assessed to not exceed this 100 vehicle per hour limit.

As site access traffic is minimal increase, the intersection performance does not need to be reviewed.



#### **3 PARKING**

#### 3.1 Statutory Parking Requirements

Parking requirements for developments within Shire of Karratha are outlined within the Shire of Karratha Town Planning Scheme text. Key relevant points from the Town Planning Scheme are summarised as follows:

- Clause 5.11.1 Parking supplied in accordance with requirements in Appendix 3 and the relevant Australian Standards.
- Clause 5.11.2 Where a development is not specified in Appendix 3, the local government shall determine car parking requirements.
- Clause 5.11.5 The local government may reduce the number of parking bays required by Clause 5.11.1.
- Clause 5.11.7 The local government may permit some discounting of parking requirements for combined parking use.
- Clause 5.11.12 Parking bays must be constructed in accordance with Australian Standards 2890.
- Clause 5.11.15 Parking bays must be constructed to a minimum size of 5.5m long by 2.7m wide.

#### 3.2 Carparking Rates

Town Planning Scheme, Appendix 3 Carparking Requirements are as follows:

- Caretakers Dwelling (Mangers Residence) One per dwelling
- Hotel/motel One per Accommodation Room, plus one per every five rooms for visitors and staff.
- Restaurant One per six square metres of dining space
- Tavern (pub) One per two square metres of bar floor area available to the public, plus one per four square metres of lounge floor area available to the public, plus one per six square metres of outdoor entertainment / bear garden area available to the public.

Table 4 - Parking Requirements

	Land Use	Parking Rate	Parking Required
Hotel	928 Rooms	1 per room + 1 per 5 rooms for	928 + 186
		visitors and staff	Total – 1,114 bays
Mangers Residence	1 Residence	1 per residence	1 bay
Restaurant	400m2	1 per 6m2 dinning space	67 bays
Bar	190 m2 – Bar	1bay per 2m2 of bar floor	95
	90 m2 – Pool Room	1bay per 4m2 lounge floor	22.5
	475 m2 – Outdoor area	1bay per 6m2 beer garden	79
			Total – 197 bays
		Total	1,379 bays
		Adjusted Total (refer below)	580 bays

The proposed development is a mix-use development with hotel guest, restaurant, convenience store, pub and residence. It is inappropriate to treat each land use separately in accordance with the Shire of Karratha Town Planning Scheme. It is more suitable to combine the parking requirements for the development and discount based on multiple uses for the one bay throughout the day. Road Traffic Authority suggests that requirements for parking could reduce by as much as 58% for large shopping developments vs smaller developments.

The following assumption have been made which better represent the likely parking requirements for the stie:



- The average occupancy rate for the development is likely 75% to 95%.
- 50% of the patrons to the restaurant and pub are anticipated to be Hotel Guests.
- Combined use of parking throughout the day and then in the night will likely reduce the overall parking.
- Road Traffic Authority combined reduction due to size of development.

Clause 5.11.5 of the Shire of Karratha Town Planning Scheme states that "where the local government is satisfied that the circumstances of the development justify such action and there will not be any resultant lowering of the safety standards, it may permit a reduction in the number of car parking spaces required by the subclause 5.11.1."

After Approval has been granted, the Town Planning Scheme also has provision to increase the parking where the local government is of the opinion that it is necessary. This provides a mechanism for the Local Government to ensure that the parking supplied meets the intended outcomes.

Additional to the Town Planning Scheme is the Shire of Karratha Policy DP-13, Tourism Zone Development Requirements. DP-13 provides guidance on parking requirements for the Site but notes that the specified number of car parking bays may be reduced or increased dependent on the individual circumstance of the development.

DP-13 does not provide parking rate for combined uses. It is considered more appropriate to be consistent with the rates used and apply recommendations from only RTA.

Applying the suggestions from Road Traffic Authority on traffic and parking reduction to the Site would reduce parking requirements by 58% from 1,379 to 580 bays.

#### 3.3 Similar Development Comparison

The proposed development has been compared to a similar development in size and operation. The comparison site is located within Port Headland with the following elements:

- 988 Hotel rooms
- 1,628m2 Hotel Bar and Beer Garden
- 926m2 Restaurant open to the public
- 400m2 Road House

Parking occupancy surveys were conducted throughout 2023 and showed parking never exceeded 43%. A total of 512 parking bays are provided on the site.



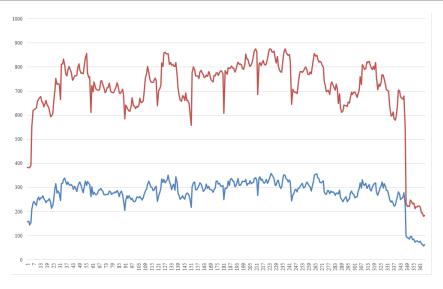


Figure 5 - Parking Occupancy - Comparison Site - Red(Room Occupancy) - Blue (No Bays Occupied)

#### 3.4 Parking Area Geometry

Parking bay size and Geometry is determined by Australian Standards and Town Planning Scheme. According to Australian Standards AS2890, the proposed development is classified as User Class 2. A summary of the parking requirements for the proposed development has been presented within Table X below.

Table 5 - Parking Geometry

Parking Bay – Width	Australian Standards, Clause 2.4.1	2.5m
	Town Planning Scheme	2.7m
Parking Bay – Length	Australian Standards, Clause 2.4.1	5.4m
	Town Planning Scheme	5.5m
Parking Aisle	Australian Standards, Clause 2.4.1	5.8m
Blind Aisle – Length	Australian Standards, Clause 2.4.2	6 x 90 degree parking bays + 1m (where no turn around provided)
Circulation Road Width	Australian Standards, Clause 2.5.2	5.5m + .6m clearance from obstructions – 6.1m.
Minimum Queue length	Australian Standards, Table 3.3	9 cars (6m per car)

It is recommended that the Town planning Scheme values are used over the Australian Standards.

#### 3.5 Disabled Parking

Disabled Parking should be provided at a rate of 2% of all the parking (1 in 50 bays) in accordance with the National Construction Code. Therefore, there should be 12 disabled parking bays provided for the proposed development. Disabled parking bays should be provided close to the destination or centrally to the development. Additionally, parking should be provided adjacent to footpaths to allows safe access and provide additional area for ease of entry and exit.



Disabled Parking Bays size should be 2.4m wide and 5.4m long with a shared area of 2.4m wide and 5.4m long. The Shared area can be a walkway, vehicular aisle or dual use with another adjacent dedicated disabled parking bay.



#### 4 SERVICE VEHICLES

The proposed development includes a dedicated area for waste storage. Adjacent to the waste storage area is a suitable area for service vehicles to operate. This area has been assessed to confirm that a Standard Rubish Truck can enter and turn around. AutoTurn swept path analysis shows the ability of the Rubish Truck to manoeuvre within the area provided as shown within **Figure 6** below.

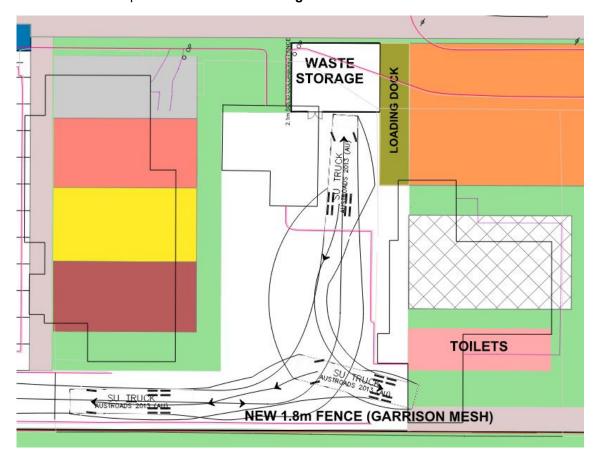


Figure 6 - Swept Path Analysis

#### 5 PUBLIC TRANSPORT

There is minimal public transport within Karratha. The Public Transport Department of Western Australia operates a bus service, TransKarratha. This service operates only 5 times per week day and twice on weekends. The bus route does not pass the Site. The bus route is shown within *Figure 7 - TransKarratha Bus* Route below.





Figure 7 - TransKarratha Bus Route

#### 6 PEDESTRIAN ACCESS WAYS & CYCLING

The Department of Transport advertises a cycling network for the town of Karratha. This cycling network covers the whole of the town and is split into multiple layers of route hierarchy. Primary cycling networks and local cycling networks are both capable of supporting riders of all ages and abilities. The site is adjacent to a Primary Cycling network as shown within **Figure 8** below. Cycling Strategy is located within **Appendix E**.



Figure 8 - Karratha Cycling Network

MRWA provide Traffic count data for road throughout Western Australian via their TrafficMap mapping. This data includes bicycle counts within Karratha. MRWA existing traffic count for the financial year 2023/24 shows a total of 35 cycling movements per day on average, Monday to Friday.

The existing footpath adjacent to the Site is high quality that connects around Karratha and to the main town centre.



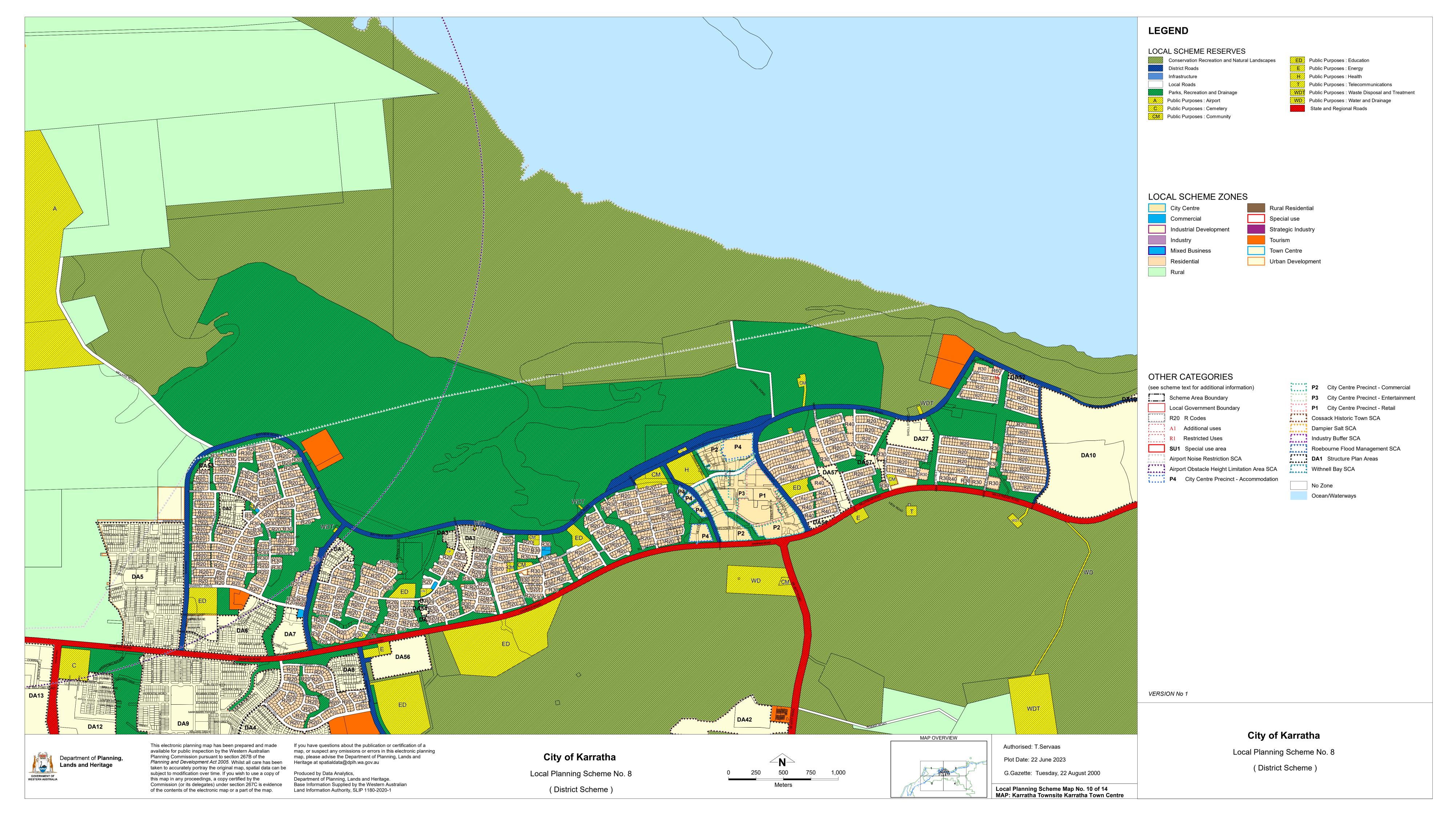


Figure 9 - Cycling Network

MRWA traffic count data shows that .5% of the traffic along Bayview Road is via Bicycle. It is recommend that the development provides connection to this high quality cycling network to promote alternative modes of transport.



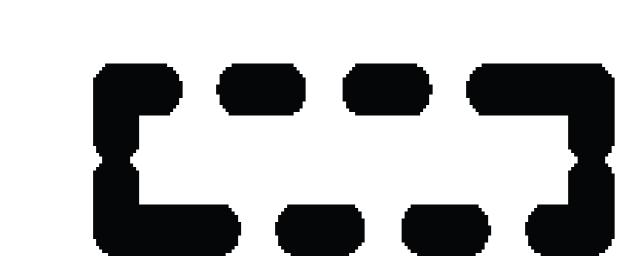
#### **APPENDIX A – TOWN PLANNING SCHEME**





#### **APPENDIX B – DEVELOPMENT PLAN**

## PROPOSED HOTEL USE



### EXISTING BUILDINGS TO BE RETAINED/REFURBISHED

RECEPTION

SWIMMING POOL

CARETAKER'S DWELLING

### PROPOSED DEVELOPMENT

96 FAMILY HOTEL SUITES (1 x QUEEN SIZED AND QUEEN LOWER, SINGLE UPPER BUNK BEDS)

16 EXECUTIVE HOTEL SUITES/ UA (1 x KING SIZED BED AND UNIVERSAL ACCESS)

336 STANDARD HOTEL SUITES (1 x QUEEN LONG BED)

432 DELUXE HOTEL SUITES (1 x QUEEN SIZED BED)

48 OCEAN VIEW SUITES (1 x QUEEN SIZED BED, AND 1 LOUNGE ROOM)

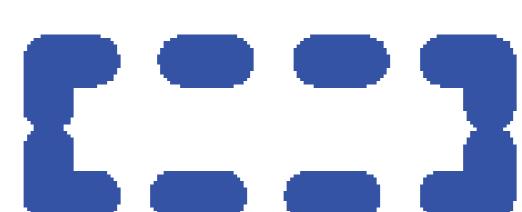
LAUNDRY (150 WASHER/DRYERS)

BAR / BEER GARDEN

TOTAL LANDSCAPE AREA: 12,453m<sup>2</sup>

ABLUTION BLOCK

# PROPOSED RESTAURANT USE



RESTAURANT

OUTDOOR SEATING AREA

ABLUTION BLOCK

## PARKING BAYS (TOTAL PARKING BAYS: 639 BAYS)

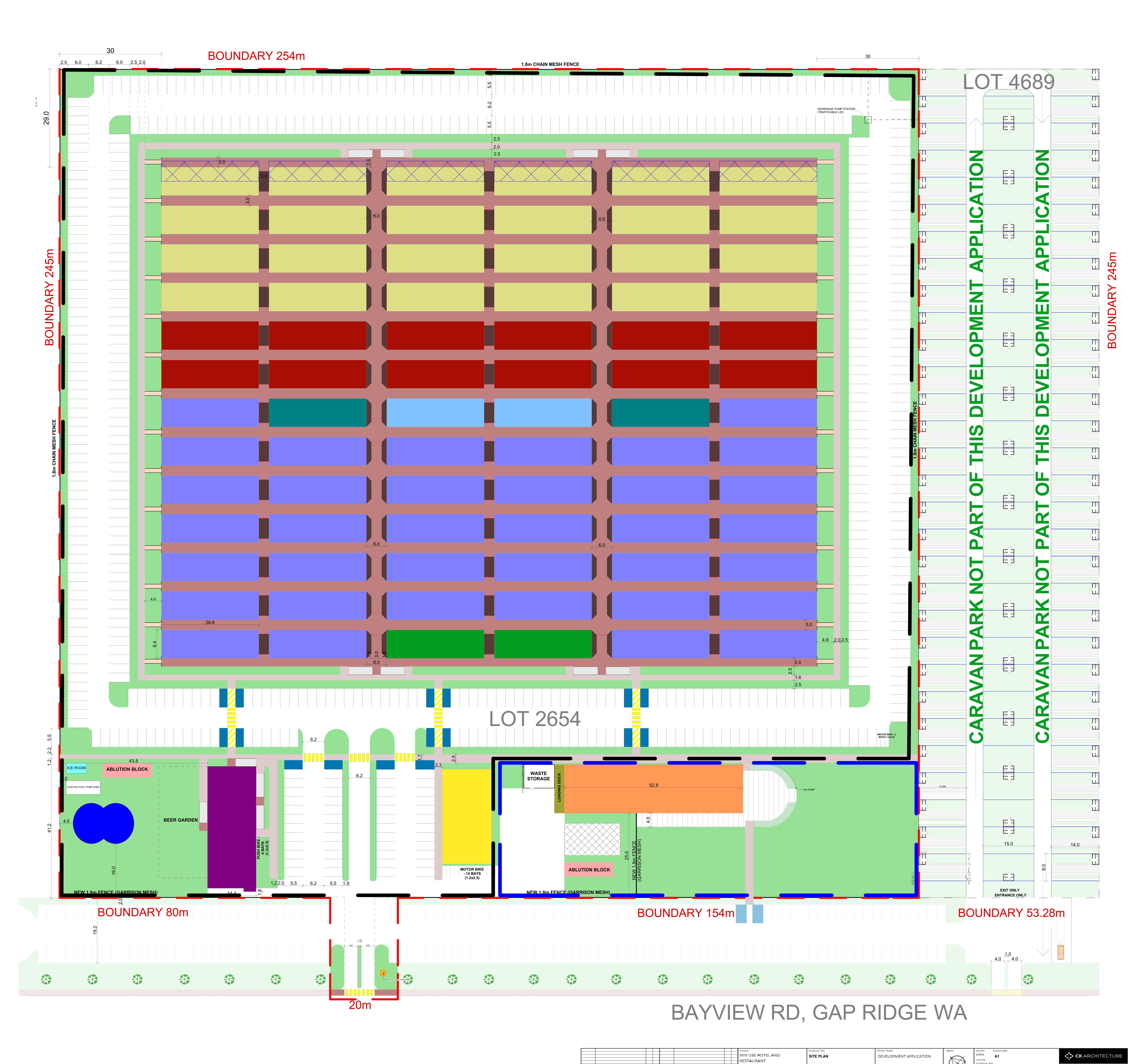
STANDARD PARKING BAYS (5.5 X 2.7) - 606 BAYS

UNIVERSAL PARKING BAYS (5.5 X 3.2) - 16 BAYS

MOTOR BIKE BAYS (1.2 x 2.5) - 17 BAYS

PUSH BIKE BAYS (1.2 x 2.5) - 4 BAYS

## SITE PLAN





#### **APPENDIX C - EXISTING SITE PLAN**



PROJECT NAME: MIXED USE HOTEL AND RESTAURANT

PROJECT LOCATION: LOT 2654 BAYVIEW RD, GAP RIDGE WA

DRAWING NO.: A15

DRAWING TITLE: SITE SURVEY CONTOUF AND DETAIL PLAN

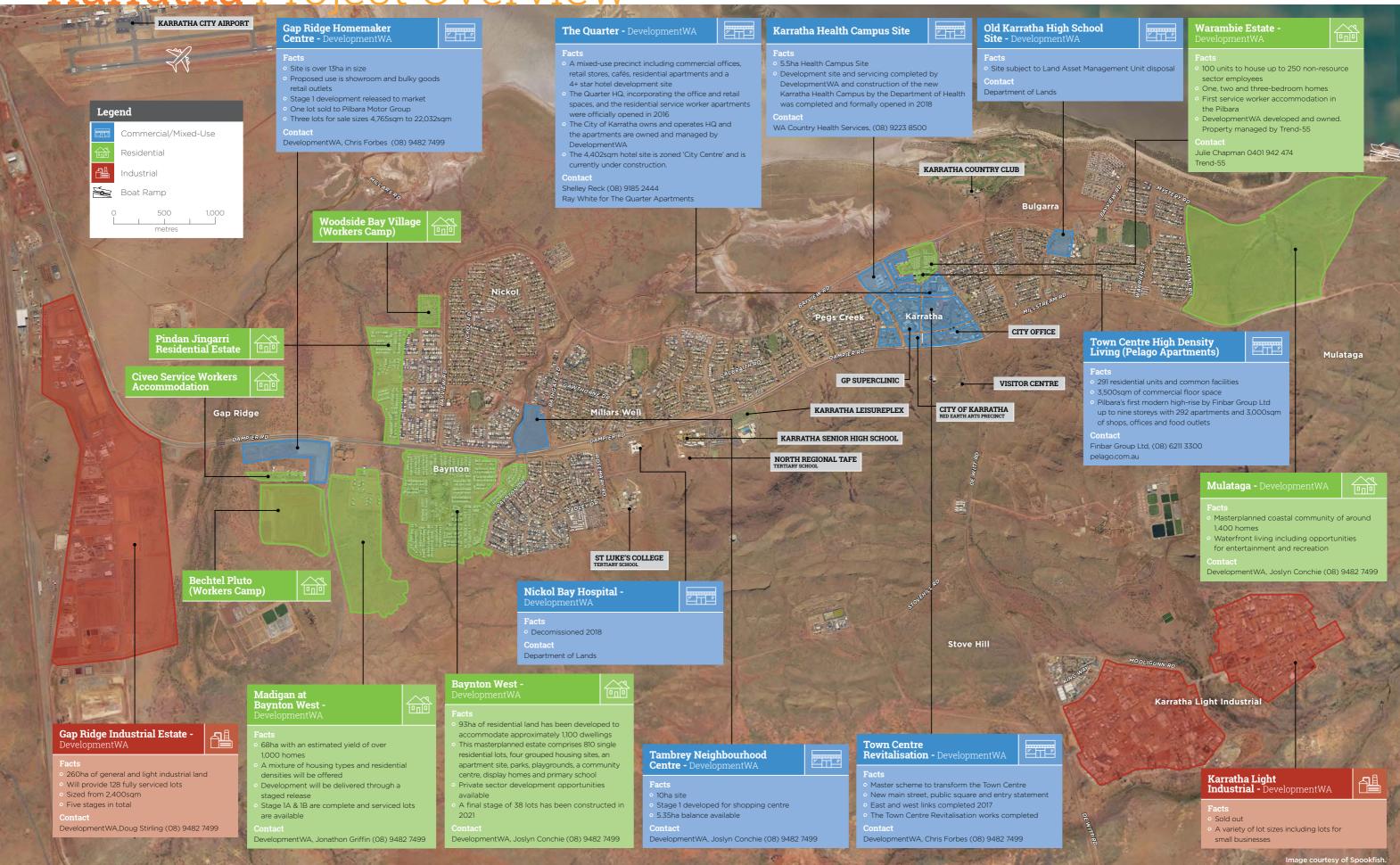
DATE: 08/03/2024



#### **APPENDIX D – FUTURE KARRATHA DEVELOPMENT**

River Engineering

Karratha Project Overview



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#### **APPENDIX E – CYCLING STRATEGY**



## PILBARA REGIONAL 2050 CYCLING STRATEGY CONSULTATION

#### **CITY OF KARRATHA**

#### **About the Project**

In collaboration with the City of Karratha, The Town of Port Hedland, and the Shires of Ashburton and East Pilbara, the Department of Transport is developing a Regional Cycling Strategy for the Pilbara. The Strategy will set out a vision for a long-term aspirational cycling network for key townsites in the Pilbara Region. The project team has begun developing the networks for each of the townsites and wants your input to help shape the future of cycling in the Pilbara.

#### The Draft Cycling Network

This flyer includes a map illustrating the draft cycling network for Karratha, Dampier, Roebourne, Wickham, and Point Samson.

The preliminary network is built around themes such as:

- Creating connected towns
- → Developing unique cycling tourism experiences
- Enabling healthy, active communities
- Connecting people to where they live, work, play and learn
- > Fostering connections between industry and towns

Some of the key features of the aspirational network include:

- → Completion of paths along Bayview Road and Dampier Highway (urban section);
- Linking Karratha to Dampier and the Burrup Peninsula
- → Connecting Roebourne, Wickham, and Point Samson
- Potential rail trail from Wickham to Cossack
- → Safer links to schools, shops and recreational facilities.

More information on the Regional 2050 Cycling Strategies can be found at <u>www.transport.wa.gov.au/</u> activetransport/regional-2050-cycling-strategies.asp

#### About the Cycling Network Hierarchy

The Western Australian Cycling Network Hierarchy is arranged by route function, depending on the type of activities that take place on the route.

The route hierarchy includes:

- → Primary Routes
- → Road Cycling Routes
- → Secondary Routes
- Tourist Trails
- → Local Routes

With the exception of Road Cycling Routes, all levels of the hierarchy are designed to cater for bicycle riders of all ages and abilities.

#### **HOW TO GET INVOLVED**

Share your thoughts on key themes and potential projects:

- Online Visit <u>www.mysaytransport.wa.gov.au/pilbara-cycling-strategy</u> to fill out a short survey and contribute to our collaborative network map. You can also provide detailed feedback via the Share Your Thoughts tab.
- → In Person Join the project team for a chat at:
  - 7:30 9:30am, Saturday 26 October 2019 at Lo's Cafe, Karratha
  - 5:00 7:00pm, Thursday 24 October 2019 at Wickham Community Hub, Wickham
- In Person View the map and complete the survey in person at City of Karratha, Lot 1083 Welcome Road, Karratha WA 6714.

#### **Enter our Photo Competition!**

Share a cycling photo or video from the Pilbara and you could win one of three Wiggle vouchers! Visit our My Say webpage (link above) to enter.

