

# Technical Memorandum

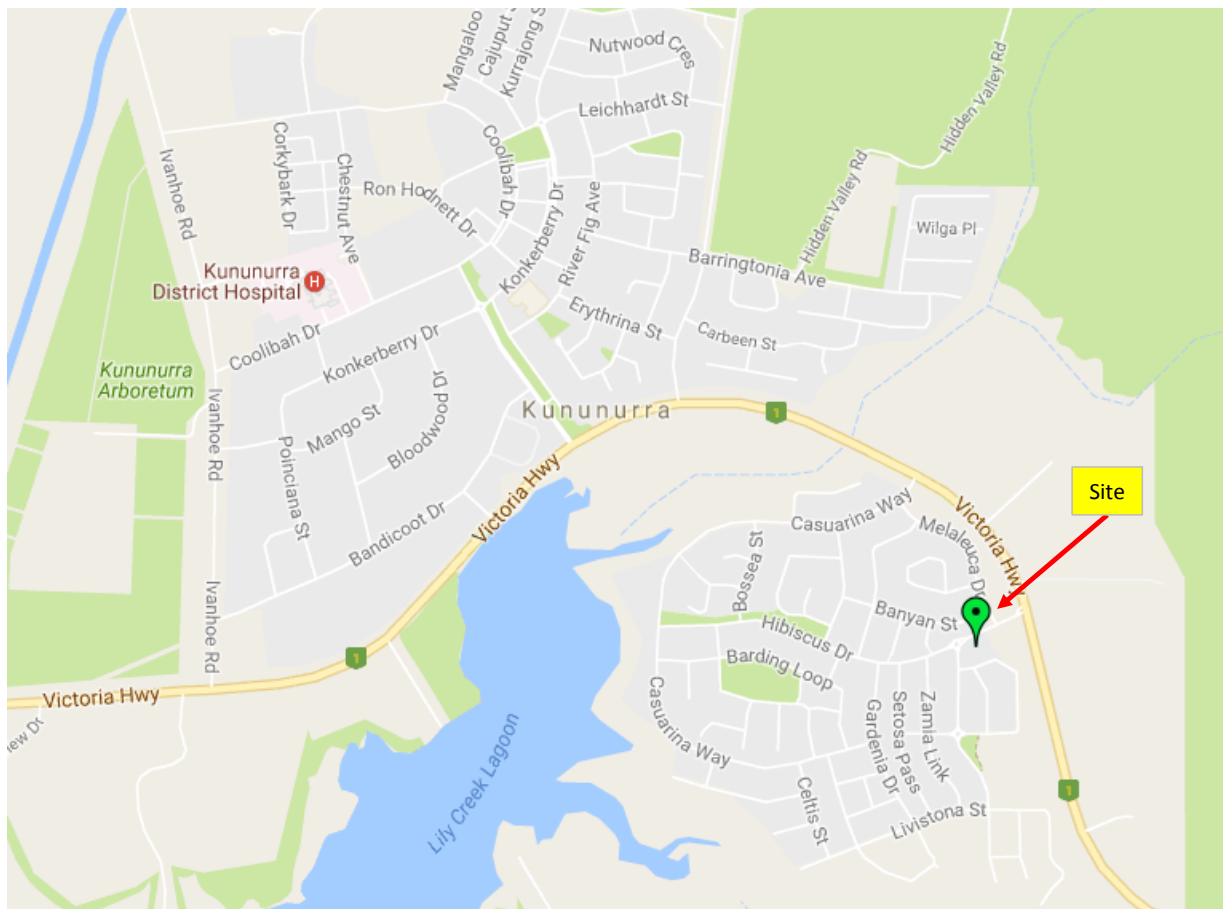
<b>Title</b>	Lot 32 (HN 60) Hibiscus Drive, Kununurra – Traffic Management and Car Parking Demand Review		
<b>Client</b>	Scribe Design Group	<b>Project No</b>	CW998800
<b>Date</b>	22/06/2017	<b>Status</b>	Revision C
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## 1 Introduction

### 1.1 Background

Cardno has been commissioned by Scribe Design Group to prepare a Traffic Management and Car Parking Demand Review for the proposed commercial development at Lot 32 Hibiscus Drive, Kununurra (Site). **Figure 1** shows the location of the Site. The existing site is currently a vacant lot.

**Figure 1 Site Location**



In the Shire of Wyndham-East Kimberley Town Planning Scheme No. 7, the site is zoned as “Local Centre”. It is noted that the general land use surrounding the Site is zoned as either “Residential” or “Residential Development”. **Figure 2** shows the land use zones surrounding the Site.

Figure 2 Zoning Map (Source: Town Planning Scheme No. 7)



## 1.2 Existing Road Network

The site is bounded by Hibiscus Drive to the north. The west and south boundary is bounded by Argentea Avenue and Tamarind Meander respectively. Hibiscus Drive forms a 3-way priority intersection with the following nearby roads; Victoria Highway, Argentea Avenue and Melaleuca Drive. Argentea Avenue forms a 3-way priority intersection with Tamarind Meander.

**Hibiscus Drive** is located to the north of the Site. Hibiscus Drive is a two-way, two lane single carriageway road, approximately 8.5m wide, kerb to kerb, with a posted speed limit of 50 km/hr close to the Site. Hibiscus Drive is defined as a “Local Distributor” under the road hierarchy of Main Roads WA. A 2.5m wide footpath is provided on the northern side of the carriageway.

**Argentea Avenue** is located to the west of the Site. Argentea Avenue is a two-way, two lane single carriageway road, approximately 6m wide, kerb to kerb, with a posted speed limit of 50 km/hr close to the Site. Argentea Avenue is defined as an “Access Road” under the road hierarchy of Main Roads WA. A 2.5m wide footpath is provided on the western side of the carriageway.

**Tamarind Meander** is located to the south of the Site. Tamarind Meander is a two-way, two lane single carriageway road, approximately 6m wide, kerb to kerb, with a posted speed limit of 50 km/hr close to the Site. Tamarind Meander is defined as an “Access Road” under the road hierarchy of Main Roads WA. A 2.5m wide footpath is provided on the southern side of the carriageway.

## 2 Proposed Development

### 2.1 Lot 32 Hibiscus Drive, Kununurra

The proposed commercial development consists of the following;

- > Deli (220m<sup>2</sup>)
- > Office (75m<sup>2</sup>)
- > Pizza – Fast Food (75m<sup>2</sup>)
- > Restaurant (120m<sup>2</sup>)
- > Retail (350m<sup>2</sup>)
- > Café (120m<sup>2</sup>)

### 2.2 Car Parking Provision

The car parking provision required to service the proposed development is set out in the Shire of Wyndham-East Kimberley Town Planning Scheme No. 7. The applicable land uses and their car parking requirements are set out in **Table 1**.

**Table 1 Car Parking Requirements**

Land Use	Yield	Minimum Parking Provision	Requirements
Deli	220m <sup>2</sup>	1 bay/20m <sup>2</sup> GFA (Shop)	11
Office	75m <sup>2</sup>	1 bay/40m <sup>2</sup> GFA (Office)	2
Pizza – Fast Food	75m <sup>2</sup>	1 bay/10m <sup>2</sup> GFA (Restaurant)	8
Restaurant	120m <sup>2</sup>	1 bay/10m <sup>2</sup> GFA (Restaurant)	12
Retail	350m <sup>2</sup>	1 bay/20m <sup>2</sup> GFA (Shop)	18
Café	120m <sup>2</sup>	1 bay/10m <sup>2</sup> GFA (Restaurant)	12
<b>TOTAL</b>	-	-	<b>63</b>

**Table 1** suggests that at least 63 car parking bays should be provided. The current plan allows for 46 parking bays and therefore, in theory, there is a shortfall. However, it should be noted that the different land uses would have different times for peak demands and therefore it allows some parking bays to be shared.

The anticipated operating times for the different land uses are summarised in **Table 2**.

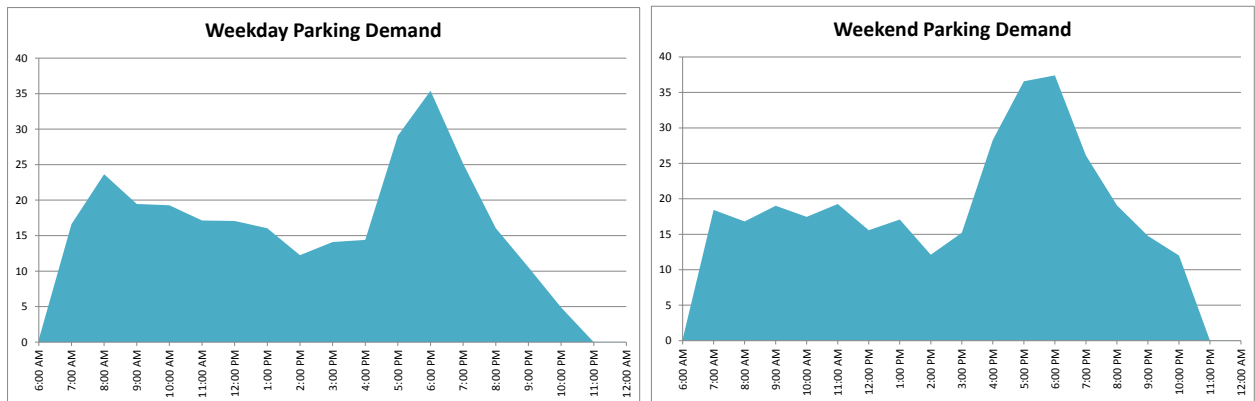
**Table 2 Proposed Development Operating Times**

Land Use	Operating Days	Operating Hours
Deli	Monday to Sunday	6am – 8pm
Office	Monday to Friday	9am – 5pm
Pizza – Fast Food	Tuesday to Sunday	5pm – 10pm
Restaurant	Monday to Sunday	5pm – 10pm
Retail	Monday to Sunday	9am – 6pm
Café	Monday to Saturday Sunday	7am – 4pm 7am – 1pm

It can be seen from **Table 2** that the operating times for Pizza (Fast Food) and Restaurant are generally outside the operating hours when compared with other land uses particularly into the evening which would be their busiest time. This suggests that a reduction of parking requirements (20 less parking bays) may be reasonable therefore potentially reducing the total car parking requirements to around 43 bays. The current plan allows for 46 parking bays and is therefore considered to be sufficient on this basis.

Cardno has developed a sophisticated parking model that includes the effects of both shared parking (public parking bays used by multiple land uses at different times) and reciprocal parking (parking bays not required due to local residents walking to the Site). The results of the theoretical parking assessment for the Site is shown in **Figure 3**.

**Figure 3 Theoretical Parking Demand**



The model outputs show that the theoretical demand for parking is 35 and 37 bays for a typical weekday and weekend respectively which suggests that the current provision for car parking bays is considered to be sufficient.

### 2.3 Access Arrangements

The main vehicular access into the Site is from Hibiscus Drive and exiting onto Argentea Avenue.

## 3 Public Transport

Discussion with the Shire of Wyndham-East Kimberley indicates that currently there is no public transport services in Kununurra.

## 4 Pedestrian/Cycling Network

Nearmap imagery and Google Streetview suggests that there is at least a 2.5m wide footpath provided on one side of the road (Hibiscus Drive, Argentea Avenue, Tamarind Meander) within close proximity of the proposed development. This may be used for both pedestrian and cyclists providing connections to nearby residential areas.

## 5 Conclusion

Cardno was engaged by Scribe Design Group to provide a review on the proposed number of car parking bays for the commercial development at Lot 21 Hibiscus Drive, Kununurra. Taking into consideration the proposed operating times for the different land uses of the development, in particular the restaurants/fast food uses, it was determined that the number of car parking bays (46 bays) is considered to be sufficient.