

25 August 2022

Essence Project Management Pty Ltd
Level 4, 260 Queens Street
Brisbane QLD 4000

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL



Approval no: DEV2021/1251/2
Date: 30 January 2023

Attention: Stuart Angas

Dear Stuart,

**RE: MAROOCHY PDA PRIVATE HOSPITAL
CAR PARKING DEMAND ASSESSMENT**

INTRODUCTION

This letter has been prepared by Pekol Traffic and Transport (PTT), as requested by Essence Project Management Pty Ltd (Essence), to assess the car parking aspects of a revised layout for the Maroochy PDA Private Hospital. The assessment includes a review of the previously approved traffic report for the development and a car parking demand assessment for the new proposal.

The development, comprising the land uses outlined in Table 1, was previously approved by Economic Development Queensland (EDQ) in 2022 (application reference DEV2021/1251/1).

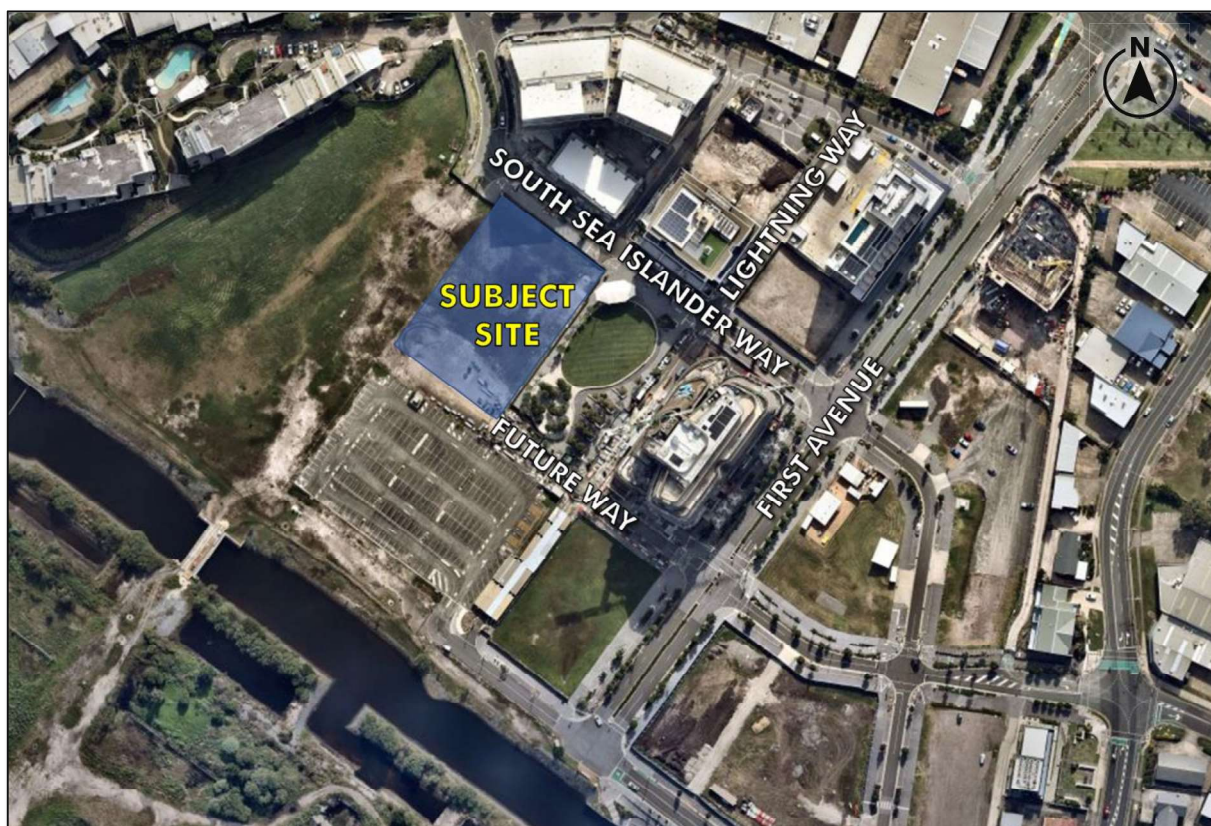
Table 1: APPROVED DEVELOPMENT LAND USES

USE	GFA	USE	GFA
Ground Level		Level 5	
Food and Drink	380m ²	Medical Tenancies	1,425m ²
Pathology	47m ²	Office	283m ²
Medical Imaging	540m ²	Level 6	
Retail	202m ²	Consultancy Suites	1,677m ²
Medical Tenancies	153m ²	Level 7	
Level 4		Hospital	2,080m ²
Health Care Services	1,402m ²	Level 8	
Office	594m ²	Hospital	2,080m ²

SUBJECT SITE

The subject site is formally identified as Lots J1 and J2, Maroochy City Centre and is located within Precinct 3 of the Maroochy City Centre priority development area (PDA), as shown in Figure 1.

Figure 1: SUBJECT SITE



PROPOSED DEVELOPMENT

The proposal seeks approval for revised layout for the Maroochy PDA Private Hospital. The proposed development comprises the land uses summarised in Table 2.

Table 2: PROPOSED DEVELOPMENT USES

USE	GFA	USE	GFA
Ground Level		Level 7	
Food and Drink	216m ²	Health Care Consulting	1,738m ²
Pathology	49m ²	Level 8	
Medical Imaging	718m ²	Hospital	2,062m ²
Retail	271m ²	Level 9	
Level 5		Hospital	1,948m ²
USC Education and Research	1,428m ²	Level 10	
Level 6		Hospital (staff facilities)	342m ²
Health Care Consulting	1,139m ²		
Day Surgery	608m ²		

PARKING

PREVIOUS APPROVAL

The traffic engineering report for the previous Maroochydore PDA Private Hospital approval was prepared by TTM (dated 18 November 2021). The parking requirement for the development was determined for the hospital and consultancy suites on first principles basis, and the remaining uses were considered ancillary to the hospital.

However, a review of the new proposal indicates that:

- The food and drink and retail tenancies are accessible and visible from ground level. Therefore, these tenancies would attract non-hospital customers.
- The health care consultancies would be leased and operated independently of the hospital. Therefore, the majority of patients and customers using these facilities would likely be unrelated to the hospital.
- The University of the Sunshine Coast's allied health teaching program would include clinical trials on-site in response to local demand for teaching and drug development. These facilities would attract a significant number of local specialists and students, the majority of whom would require parking on-site, particularly those involved in supervising overnight trials.

On this basis, the non-hospital tenancies would not be ancillary to the hospital and the parking requirement for the entire development should be reassessed accordingly.

We have been advised that the requirement for surgery within the local area, particularly orthopaedic surgery, far exceeds the demand estimates determined as part of the initial application. This has necessitated the provision of an additional two theatres on Level 6 (ie the day surgery), increasing the overall number of theatres on-site from six to eight. As a result, the parking demand associated with the hospital would increase due to the nature of the patients attending the facility. Orthopaedic patients, who would generally require both the health care consulting services as well as the hospital for their procedure, are typically unable to utilize public transport or walk significant distance such from off-site parking areas.

REQUIREMENT

Parking Requirement Rates

Economic Development Queensland (EDQ) has provided a development scheme for the Maroochydore City Centre PDA. The scheme nominates on-site car parking rates for residential and non-residential uses. However, for emergency services and community uses, such as hospital or a day surgery, the PDA states that parking requirements be determined based on a car parking management plan.

USC, Food and Drink and Retail

The parking requirement associated with the University of the Sunshine Coast (USC) and the retail and food and drink tenancies has been determined using the parking provision rates provided in the Maroochydore City Centre PDA Development Scheme, as shown in Table 3.

Table 3: HEALTH CARE SERVICES, FOOD AND DRINK AND RETAIL PARKING REQUIREMENT

USE	SCALE	RATE	REQUIREMENT
USC Education and Research	1,428m ² GFA	1 space per 60m ² GFA	24
Food and Drink	216m ² GFA		3
Retail	271m ² GFA		5
Total			32 spaces

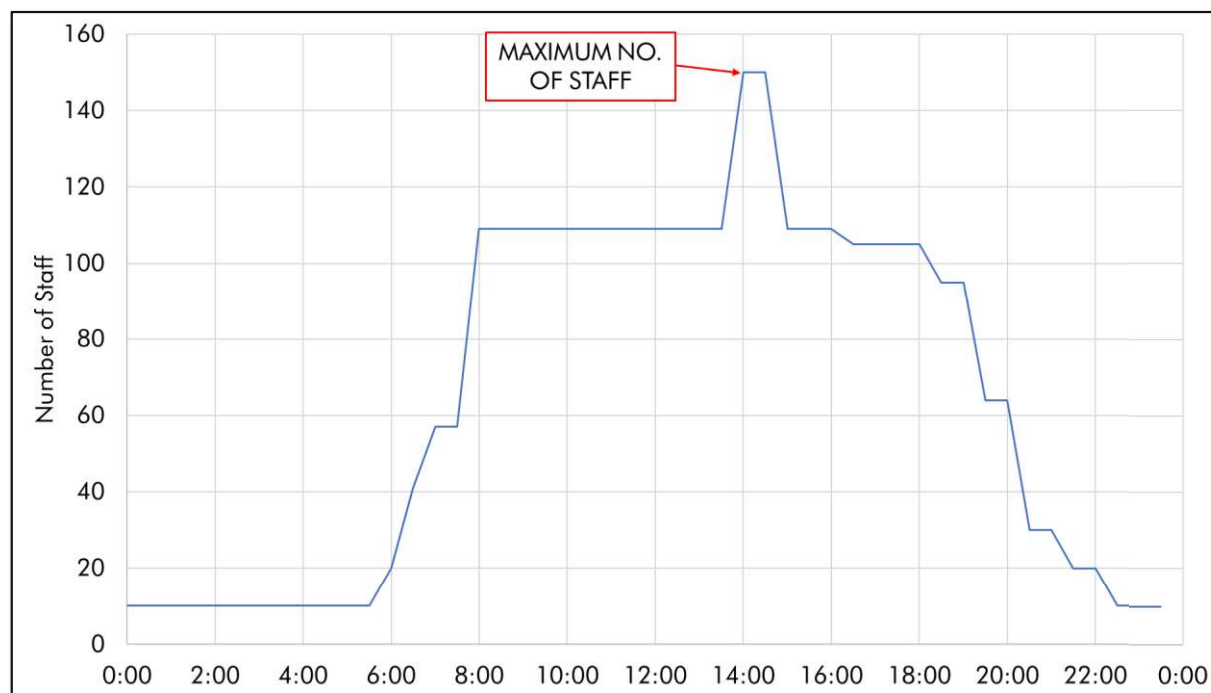
Hospital and Day Surgery Staff

The parking demand for hospital and day surgery staff has been calculated from first principles using the equation below:

$$\text{Parking Demand} = \frac{\text{Number of Staff} \times \% \text{ Private Vehicle}}{\text{Vehicle Occupancy}}$$

A hospital and day surgery staff shift profile has been generated using information supplied by DPA Health to determine the maximum number of staff expected on-site at any one time. As shown in Figure 2, the peak staff parking demand would occur for about 30 minutes between 2:00 and 2:30pm (ie the afternoon shift change over). During this period, approximately 150 staff would be on-site.

Figure 2: STAFF SHIFT PROFILE



The vehicle occupancy and mode share data for hospital staff, including doctors, nurses and administration staff, has been sourced from 2016 Census Data from the Australian Bureau of Statistics (ABS) for the Maroochydore – Kuluin area. Table 4 calculates the expected hospital and day surgery staff parking demand to be 134 spaces.

Table 4: HOSPITAL AND DAY STAFF PARKING DEMAND

	PEAK DEMAND	SOURCE
Number of Staff	150	DPA Health
Vehicle Occupancy	1.04	ABS
% Private Vehicle	93%	ABS
Demand	134 spaces	

Hospital Patients and Visitors

The parking demand for hospital patients and visitors has been calculated from first principles using the equation below:

$$\text{Parking Demand} = \frac{\text{Number of Beds} \times \text{Number of People per Patient} \times \% \text{ by Parked Car}}{\text{People per Car}}$$

In April 2021, PTT undertook a detailed car parking study for Mackay Base Hospital (MBH). This study included:

- An initial site visit to discuss the existing hospital operations with MBH representatives.
- Vehicle occupancy surveys and a car parking audit undertaken by PTT observe the operational characteristics of existing parking infrastructure and the existing parking demand.
- A week-long parking patrol survey undertaken by Austraffic to determine parking demand and duration. The counts were undertaken in one-hour intervals for the 14-hour survey duration each day.

From this study, we have good estimates of the number of visitors per patient, the number of visitors per car and the percentage of visitors that travel by private vehicle to the hospital and park on-site. We have used this data to calculate the expected parking demand for hospital visitors, as shown in Table 5, as being between 43 and 48 spaces.

Table 5: HOSPITAL PATIENT AND VISITOR PARKING DEMAND

	LOWER LIMIT	UPPER LIMIT	SOURCE
Number of Beds	44	44	DPA Health
People per Patient	1.6	1.6	PTT
People per Car	1.4	1.4	PTT
% by Parked Car	85%	95%	PTT
Demand	43 spaces	48 spaces	

Day Surgery Patients

The parking demand for day surgery patients has been calculated from first principles using the equation below:

$$\text{Parking Demand} = \frac{\text{Number of Patients} \times \% \text{ by Parked Car}}{\text{Patients per Car}}$$

Staff for the day surgery have already been accounted for in the hospital staff parking demand calculation. Therefore, the demand associated with the day surgery refers to patients only.

According to DPA Health, the day surgery would be able to accommodate approximately 65 patients per day and between 10 to 20 patients at one time. We have assumed that between 40% and 60% of vehicles would park on-site based on advice from DPA Health that up to 60% of day surgery patients would be dropped off and a large proportion of the drivers would wait on-site.

Table 6 calculates the expected parking demand for day surgery patients, which ranges from four to 12 spaces.

Table 6: DAY SURGERY PARKING DEMAND

	LOWER LIMIT	UPPER LIMIT	SOURCE
Number of Patients	10	20	DPA Health
Patients per Car	1.0	1.0	PTT
% by Parked Car	40%	60%	DPA Health
Demand	4 spaces	12 spaces	

Health Care Consulting Staff

The parking demand for health care consulting staff has been calculated from first principles using the equation below:

$$\text{Parking Demand} = \frac{\text{Number of Staff} \times \% \text{ On Site} \times \% \text{ Private Vehicle}}{\text{Vehicle Occupancy}}$$

The proposed layout includes 12 health care consultancies. According to DPA Health, these consultancies would have a total of approximately 45 staff, of which between 60% and 70% of staff would be on-site at one time.

The vehicle occupancy and mode share data for health care consulting staff, including doctors, nurses and administration staff, has been sourced from 2016 Census Data from the Australian Bureau of Statistics (ABS) for the Maroochydore – Kuluin area. Table 7 calculates the expected health care consulting staff parking demand as being between 23 and 27 spaces.

Table 7: HEALTH CARE CONSULTING STAFF PARKING DEMAND

	LOWER LIMIT	UPPER LIMIT	SOURCE
Number of Staff	45	45	DPA Health
% On-site	60%	70%	DPA Health
Vehicle Occupancy	1.06	1.06	ABS
% Private Vehicle	92%	92%	ABS
Demand	23 spaces	27 spaces	

Health Care Consulting Patients

The parking demand for health care consulting patients has been calculated from first principles using the equation below:

$$\text{Parking Demand} = \frac{\text{Number of Patients} \times \% \text{ On Site} \times \% \text{ by Parked Car}}{\text{Persons per Car}}$$

According to DPA Health, the health care tenancies would be able to accommodate a total of approximately 130 patients. As with health care consulting staff, it is expected that only 60% to 70% of patients would be on-site at one time given that patient appointments are dependent on the availability of health care specialists.

The vehicle occupancy and the percentage of patients that would park has been sourced from PTT's parking study for MBH, as discussed above. Table 8 calculates the expected health care consulting patient parking demand as ranging from 47 to 62 spaces.

Table 8: HEALTH CARE CONSULTING PATIENT PARKING DEMAND

	LOWER LIMIT	UPPER LIMIT	SOURCE
Number of Patients	130	130	DPA Health
% On-site	60%	70%	DPA Health
Vehicle Occupancy	1.4	1.4	PTT
% Private Vehicle	85%	95%	PTT
Demand	47 spaces	62 spaces	

Total Requirement

The total car parking requirement associated with the proposed development is summarised in Table 9 below. As shown, the proposed development would need to provide between 279 and 311 parking spaces.

Table 9: TOTAL PARKING REQUIREMENT

USE	LOWER LIMIT	UPPER LIMIT
USC Education and Research	24	24
Food and Drink	3	3
Retail	5	5
Hospital and Day Surgery Staff	134	134
Hospital Visitors	43	48
Day Surgery Patients	4	12
Health Care Consulting Staff	23	27
Health Care Consulting Patients	47	62
Total	279 spaces	311 spaces

PROVISION

A parking provision of 283 spaces is proposed, consistent with EDQ's Maroochydore City Centre PDA Development Scheme requirements.

CONCLUSIONS

A car parking demand assessment has been undertaken for the proposed Maroochy PDA Private Hospital. The main point to note is that the proposed parking provision of 283 spaces is consistent with EDQ's Maroochydore City Centre PDA Development Scheme requirements.

If you have any questions regarding the issues discussed above, please do not hesitate to contact us.

Yours sincerely,



Adam Pekol
Director (RPEQ 5286)