RoadNet

Traffic Impact Study

Proposed Medical Centre cnr Gore and Bridge Streets, Port Macquarie

12 April 2010

For

Chris Jenkins Design - Architects Pty Ltd

Document Status	**Final**

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1 INTRODUCTION

Chris Jenkins Design – Architects Pty Ltd propose construction of a multi-storey medical centre on the corner of Gore Street and Bridge Street, Port Macquarie. As part of the Development Application, Port Macquarie-Hastings Council requires a Traffic Impact Study to determine the impacts of the increased traffic generated by the proposed development on the adjacent roads.

The site is rectangular in shape and approximately 2086m^2 in area, with frontages to Bridge Street and Gore Street. The western boundary fronts a future laneway, while to the north is an existing one and 2 storey residential villa complex. The site is currently vacant and slopes gradually from west to east, towards Bridge Street.

The proposed development will comprise a total of 6 floors – 4 of medical practices and 2 levels of undercover parking.

Figure 1 shows the location of the proposed development.

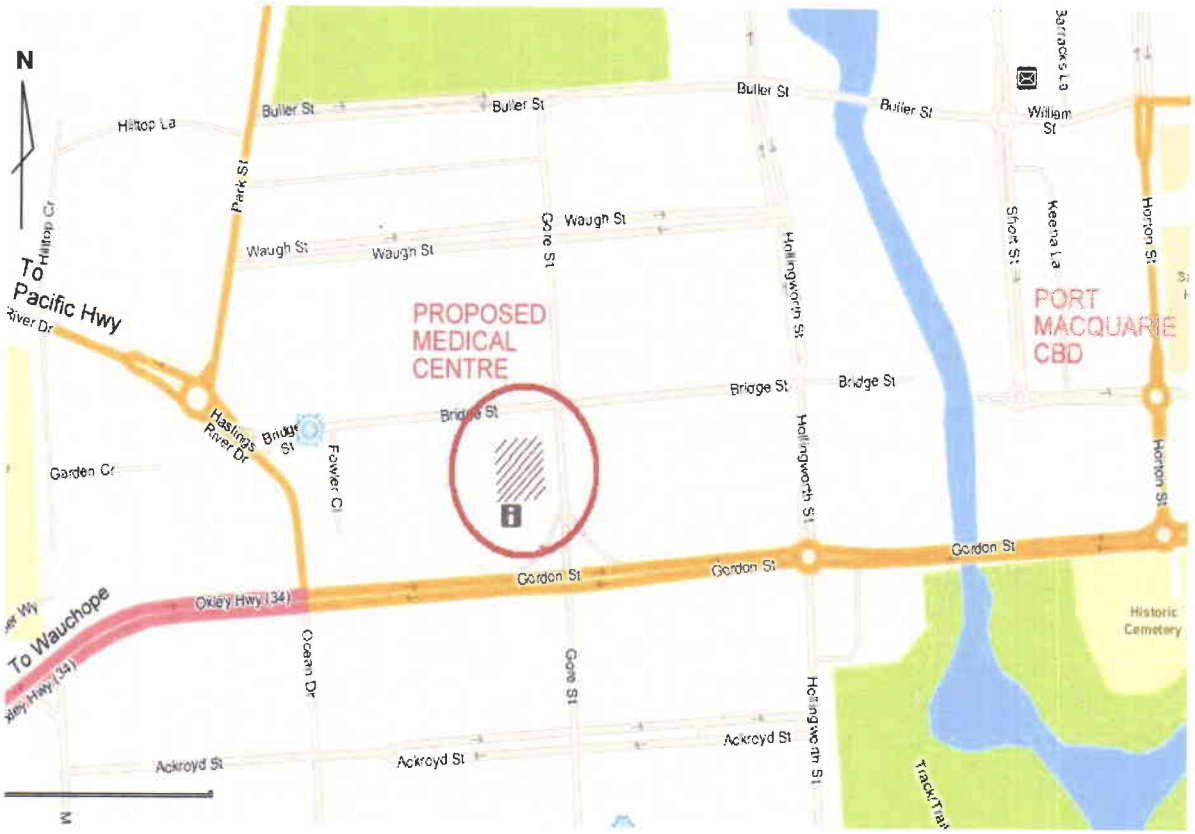


Figure 1 – Locality Plan

2 METHODOLOGY

The site has been inspected and relevant data collected in relation to traffic and site conditions.

Plans provided by the client have been reviewed and access arrangements analysed in terms of traffic flow and safety. Specifically, issues raised by Council and RTA have been addressed in detail. The traffic impacts of the project have been assessed in accordance with the RTA Guide to Traffic Engineering Practice with reference to Australian Standards, Council's Codes and Austroads Guidelines.

The following methodology was adopted in the assessment and preparation of this report.

- Site Inspection and meeting with the client to discuss project overview,
- Consultation with Council's Traffic Engineer and Planners.
- Carry out traffic surveys at the intersection of Gore and Bridge Streets for 4 hours on a typical weekday – 2hrs in the am and 2 hours in the pm.
- Calculate traffic generation of the proposed development.
- Modelling of the current and proposed operation of the intersection with respect to the development.
- Consider traffic generation from adjacent areas if applicable.
- Assess entry / exit of vehicles in relation to proposed extension of service lane.
- Assess pedestrian and cyclist access for the development.
- Prepare a draft report and submit to Client for comment.
- Prepare final report in accordance with the RTA Guide to Traffic Engineering Practice with reference to Australian Standards, Council's Codes and Austroads Guidelines.
- RoadNet has not assessed any onsite traffic issues for the development.

3 EXISTING TRAFFIC CONDITIONS

3.1 Existing roads

Bridge Street is aligned east-west and links Hastings River Drive with Hollingworth Street. The street is a 16m wide sealed, local roadway, fully formed with 150mm kerb & gutter either side, within a 30m wide reserve. Parking within Bridge Street is currently parallel to the kerb, leaving 11m of roadway for through traffic.

Gore Street runs north-south and links Buller Street with Gordon Street and Edward Street/Hindman Street to the south. A median strip across the centre of Gordon Street restricts vehicles from turning into and out of the west-bound lanes of Gordon Street into Gore Street. The Gore Street road reserve is 30m wide, and contains a sealed roadway 20m wide between kerbs. A concrete footpath exists on the eastern side of Gore Street, linking Bridge Street and Gordon Street. Existing on-street parking in Gore Street is 45° 'rear to kerb', angle parking in the vicinity of the development, reverting to parallel parking elsewhere in Gore Street.

The speed limit of the streets across the frontage of the development site is 50kmh.

3.2 Existing intersections

3.2.1 Gore Street and Bridge Street

The intersection of Gore and Bridge Streets is controlled by 'Give Way' signs, with Gore Street being the major through road, and vehicles in Bridge Street having to give way. The design plans provided by Council indicate that the current priority, signage and linemarking will be retained as part of the future intersection upgrade.

Port Macquarie-HASTINGS Council have provided concept layout plans of a future upgrade of the intersection of Bridge and Gore Streets which includes landscaped kerb blisters at each of the corners of the existing intersection and formalisation of existing parking. It should be noted that the existing parking arrangement across the frontage of the development site is to be retained i.e. 45° rear to kerb angle parking in Gore Street and parallel parking in Bridge Street.

A site inspection revealed that the pavement condition of the Bridge Street is good, while Gore Street includes patching and some sections of rough surface.

Figure 2 – The proposed development site showing both the Gore & Bridge St frontages.

Figure 3 – Looking west along Bridge St from Gore St intersection.

***Figure 4** – Looking south along Gore St from Bridge St intersection.*

3.2.2 *Hastings River Drive and Bridge Street*

Hastings River Drive is a 4 lane/2 way classified road connecting Port Macquarie CBD with the Pacific Highway. Traffic counts in Hastings River Drive have been provided by Port Macquarie – Hastings Council, and indicate a maximum peak hour of approximately 1400 vph (both directions). The intersection of Hastings River Drive and Bridge Streets is approximately 250 metres west of the development site. The 'T-intersection' is controlled by a 'Give Way' sign at the end of Bridge Street, giving priority to traffic in Hastings River Drive. Turning movements are restricted, as vehicles are not permitted to turn right from the westbound lane of Hastings River Drive into Bridge Street.

RoadNet's observations indicate vehicle movements from Bridge Street into Hastings River Drive often involved delays, particularly the right turn into the westbound lanes of Hastings River Drive. At peak times, the queues in Hastings River Drive resulting from the traffic lights at Gordon Street often stretch across Bridge Street intersection, effectively blocking any vehicle movement out of Bridge Street. Figure B.3(h) of the previous version of Austroads (2005) Guide to Traffic Engineering Practice – Part 5: Intersections at Grade, confirms the current congestion at this intersection, with average delays of up to 100 seconds for right hand turn movements out of Bridge Street. The recently released version of Austroads recommends computer modelling of the intersection to determine its level of service. This is considered unnecessary as the above method is adequate for the purposes of this report.

4 THE PROPOSAL

4.1 Description

The proposed development comprises 6 floors, with 4 floors of medical practices and associated administration and support services and 2 floors of undercover parking for staff and customers. The total gross floor area of the proposed medical centre is 3486m^2.

The development also includes two levels of undercover parking for staff and customers, with the lower level accessed via a ramp off Bridge Street and the upper level accessed via a proposed laneway to the west of the development. The laneway works will include construction of an unformed link between Gore Street and an existing public carpark to the north of the subject site. The lower level parking is accessed via a ramp off Bridge Street and the upper level carpark is accessed via an extension of the existing service lane to the west of the development. Driveway setbacks are to be in accordance with Figure 3.3 of AS 2890.1.

The proposed development will also include a 1.2m wide concrete footpath across both Gore Street and Bridge Street frontages of the development.

4.2 Access to the development

The development will include two vehicular access points, with the lower (basement) carpark being accessed via a driveway off Bridge Street. The driveway will be located approximately 40m north of the existing intersection with Gore Street. Access to the upper (ground floor) carpark is proposed from an extension of the existing laneway at the western boundary of the development. The driveways to each of the carparks will include longitudinal grades of up to 20% (1 in 5), which complies with Council's standards and AS 2890 (Off-Street Car Parking).

The existing roads adjacent to the proposed development are wide, and current peak hour traffic volumes in both Gore Street (192 vph) and Bridge Street (258 vph) are relatively low. Staff and patients should have no problems with vehicular access to and from the future development, with

Austroads guidelines indicating future delays at the driveways will be in the order of 1 – 5 seconds.

4.3 Traffic Volumes

Traffic counts were carried out during the morning and afternoon peak periods on 11 February 2010 at the intersection of Gore and Bridge Streets. Figure 5 shows the peak hour volumes for each period.

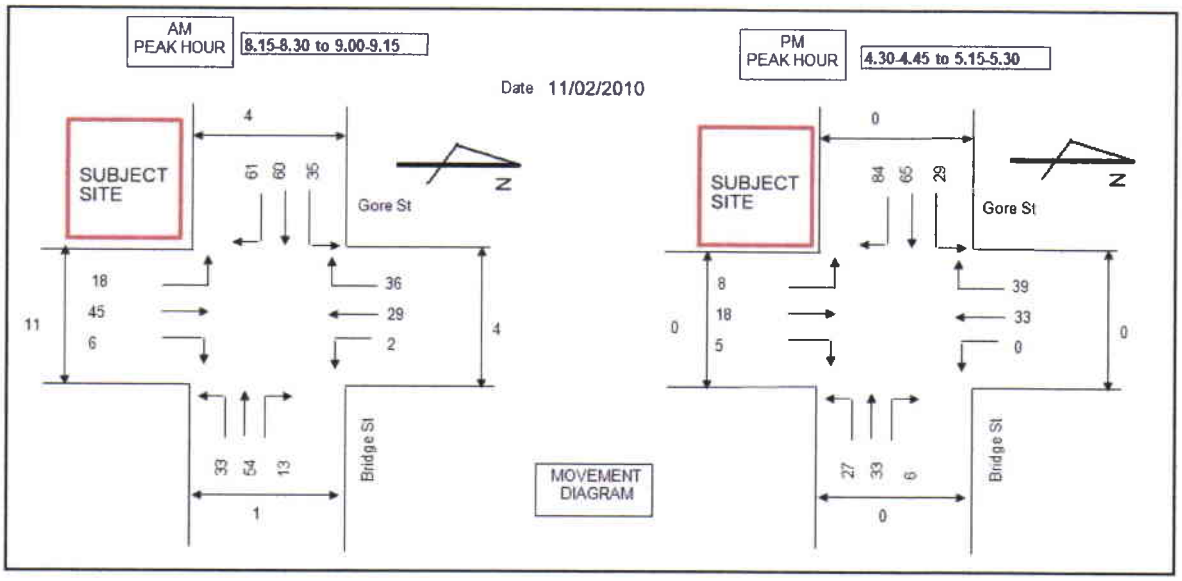


Figure 5 – Peak Hour Volumes
Gore Street/Bridge Street Intersection

The traffic count undertaken as part of this assessment indicates:

1. 226 vehicles per hour use Bridge Street (west) across the frontage of the development site during AM peak and 258 vehicles during the PM peak hour
2. 192 vehicles per hour use Gore Street (south) across the frontage of the development site during AM peak and 175 vehicles during the PM peak hour
3. Pedestrian numbers are low

The major movement during both the morning and afternoon traffic count is east down Bridge Street from Hastings River Drive, then a right turn into Gore Street towards Gordon Street. It appears vehicles are taking the Bridge and Gore Streets route to avoid delays at the traffic lights at Gordon St and Hastings River Drive.

Section 6.1.1 of Austroads Guide to Traffic Management (Part 3: Traffic Study and Analysis, 2009) relates to capacities of unsignalised intersections. In accordance with Table 6.1 (below) the current traffic volumes (175 vph in Gore St & 258 vph in Bridge St – pm peak) are not significant, and the guidelines indicate plenty of spare capacity in the intersection.

Table 6.1: Intersection volumes below which capacity analysis is unnecessary

Type of road	Light cross and turning volumes maximum design hour volumes vehicles per hour (two way)		
Two-lane major road	400	500	650
Cross road	250	200	100
Four-lane major road	1000	1500	2000
Cross road	100	50	25

4.4 Proposed traffic generation

The RTA's Guide to Traffic Generating Developments does not include any guidelines for professional consulting rooms. However, a similar category (Extended hours medical centres) indicates a relationship between gross floor area and traffic generation. Of the centres observed, the value ranged from 4.4 to 19 vehicles per hour per 100m^2 of GFA, with a mean of 10.4 vehicles.

The total gross floor area of the proposed development is 3486m^2. Therefore, using the above formula, the traffic to be generated by the proposed development is:

3486 / 100 x 10.4 = **363** vehicles per hour
or a total of approximately **3625** vehicles per day

4.5 Comparative development

RoadNet undertook an assessment of the 'Hermitage' medical centre in Lake Road, Port Macquarie, on Wednesday 17 February, 2010. The 'Hermitage' centre has a floor area of approximately 2000m^2 and is a mix of general practitioners, specialists and associated medical services including pathology, physiotherapists and a pharmacist, similar to the proposed activities of the subject development. The assessment was undertaken between 3pm and 5pm, and included a traffic count to determine the number vehicles entering and exiting the carpark, and a recording of number plates to determine the length of stay of vehicles.

The results of the assessment included:

- Total vehicles entering (2hrs) 132
- Total vehicles exiting (2hrs) 178
- Peak hr – entering (3 – 4pm) 73
- Peak hr – exiting (3 – 4pm) 93
- Total peak hr movements 166

Of the 178 vehicles exiting the site, the following lengths of stays were recorded:

- Less than 2 minutes - 14 vehicles
- Less than 5 minutes - 23 vehicles
- Less than 15 minutes - 47 vehicles
- Less than 30 minutes - 69 vehicles
- Less than 60 minutes - 111 vehicles

Of the remaining vehicles (approximately 67), some were patients parking for over one hour. However, the majority were employees leaving the site between 4 and 5pm.

Of the vehicles staying less than 5 minutes, the majority of drivers were either dropping off or picking up passengers, or visiting the pharmacy. Approximately 30% of the vehicles staying less than 5 minutes were taxis or community transport vehicles.

The peak hour movements for the 'Hermitage' site totalled 166 vehicles. As this site is approximately 50% of the floor area of the proposed Gore Street medical centre, it is reasonable to assume the estimated traffic generation of the development is 360 vehicles per hour, as per Section 5.4 above.

4.6 Traffic Assignment

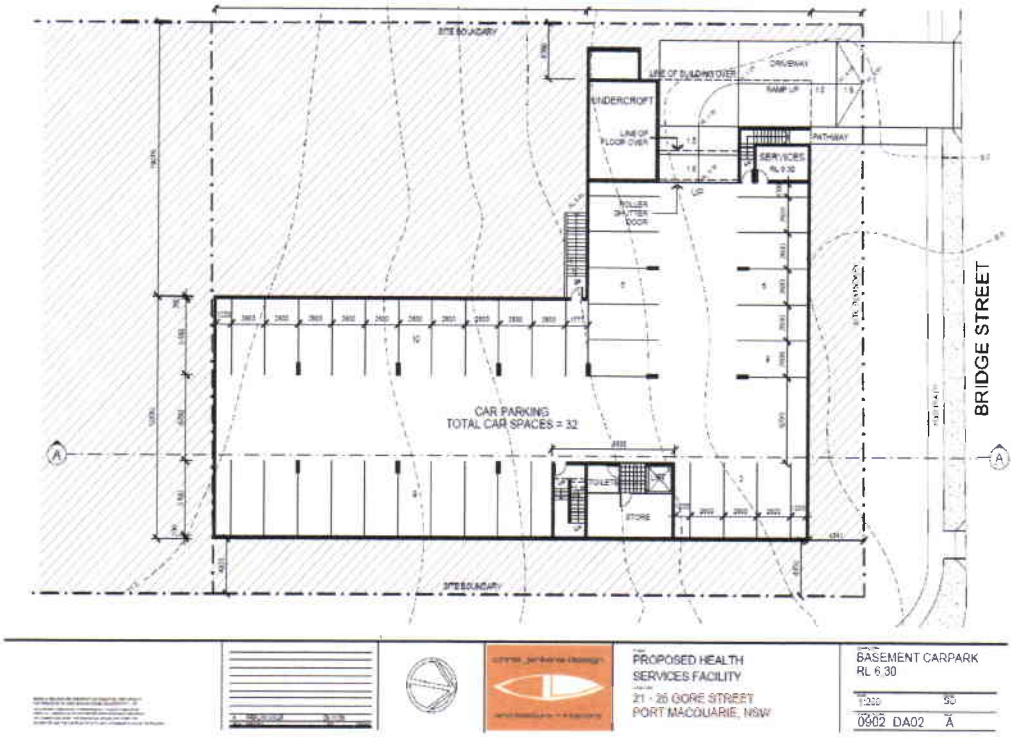
To assess the impacts of the proposed development on the existing Gore St/Bridge St intersection, the following assumptions have been adopted:

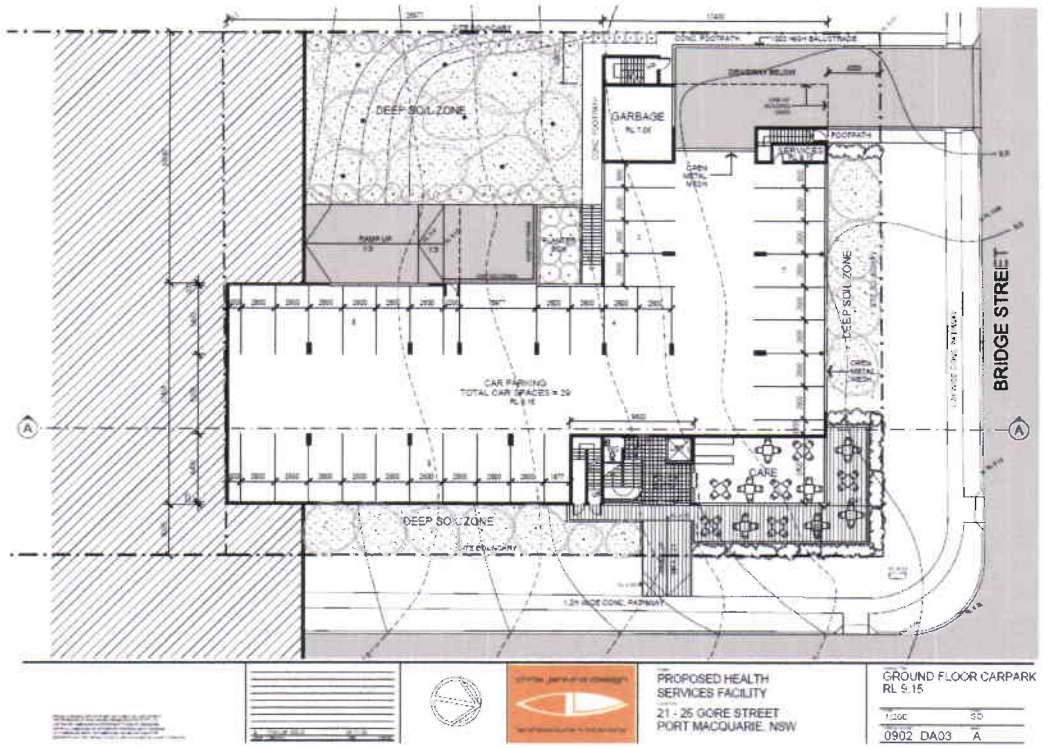
- The development will generate an estimated maximum 360 vehicle movements per hour
- The generated traffic movements will be split 50/50 in and out (i.e. 180 in/180 out)
- The majority of movements to and from the site will be at the proposed Bridge Street access (basement carpark)
- Traffic movements to and from the site will be approximately 70% from Bridge St (east) and 30% from Bridge St (west).

Right turns from Hastings River Drive into Bridge Street are currently prohibited, with vehicles using the Park Street roundabout to undertake a U-turn and then turn left into Bridge Street. The proposed development will add an estimated 50 vehicles an hour to this movement during peak hours, in addition to a further 50 vehicles per hour attracted to the site from the western parts of Port Macquarie - a total of approximately 100 additional vehicles per hour turning left into Bridge Street during peak hours.

It is anticipated that traffic generated by the development will disperse throughout the adjoining streets and have only a minor impact on existing traffic volumes and intersection operations (see Figure 6 below).

The proposed development will result in approximately 50 additional vehicles per hour through the existing Gordon Street/Hollingworth Street roundabout. Site inspections by RoadNet show the roundabout currently has adequate capacity to absorb the additional vehicles with little impact on the current operations.


SITE BOUNDARY
UNDERCROFT
DRIVEWAY
RAMP UP
PATHWAY
SERVICES
ROLLER SHUTTER DOOR
CAR PARKING
TOTAL CAR SPACES = 32
TOILET
STORE
BRIDGE STREET
PROPOSED HEALTH SERVICES FACILITY
21 - 25 GORE STREET
PORT MACQUARIE, NSW
BASEMENT CARPARK
RL 6.30
1:200
0902_DA02
A

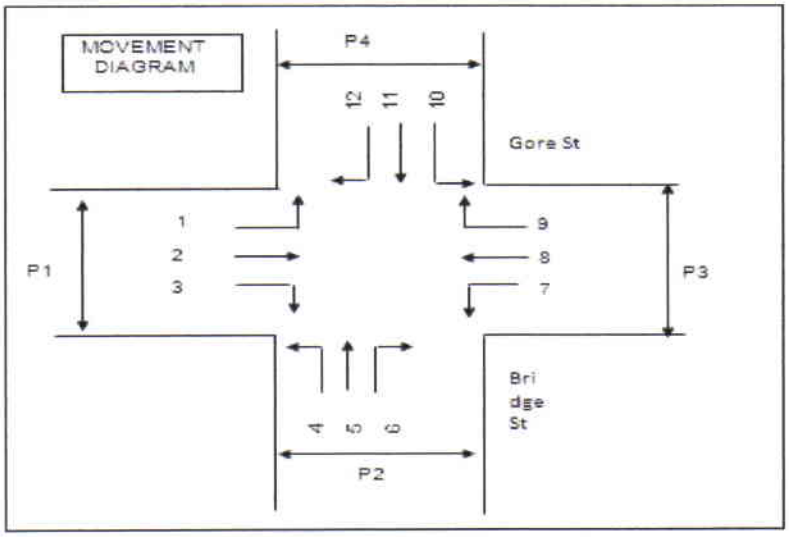

DEEP SOIL ZONE
GARBAGE
RAMP UP
FOOTPATH
CARE
DEEP SOIL ZONE
BRIDGE STREET
PROPOSED HEALTH SERVICES FACILITY
21 - 25 GORE STREET
PORT MACQUARIE, NSW
GROUND FLOOR CARPARK
RL 9.15
1:200
0902_DA03
A

APPENDIX B
TRAFFIC COUNTS

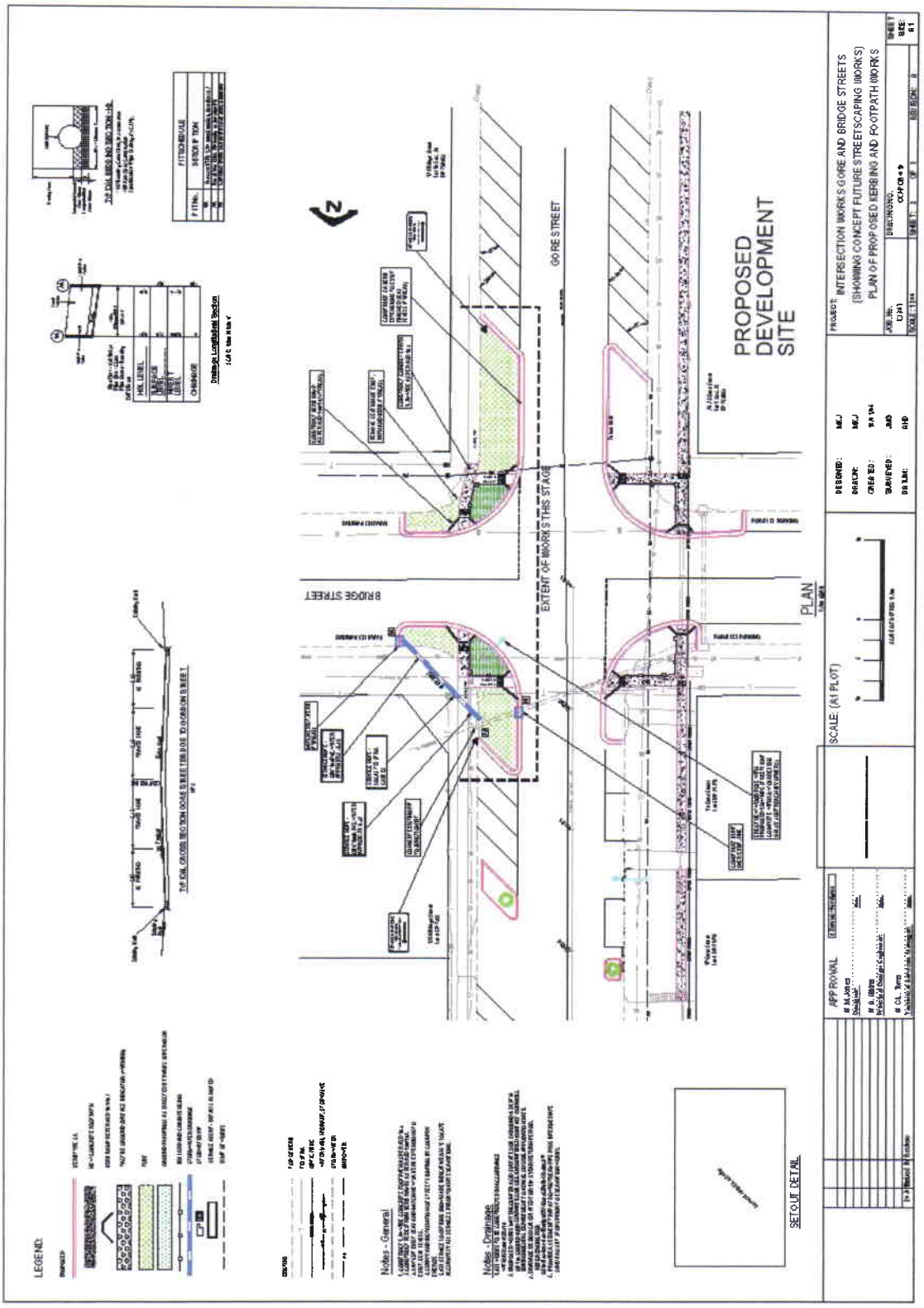
Street 1 Gore St Street 2 Bridge St Town Port Macquarie
Date 19/02/2010 Day Thursday

Time	1	H	2	H	3	H	4	H	5	H	6	H	7	H	8	H	9	H	10	H	11	H	12	H	1/4h totals	Hrly Total	P1	P2	P3	P4	1/4h totals
7.00-7.15																									0	Incl. Hvy					0
7.15-7.30																									0						0
7.30-7.45	2		14		2		3		9	1	1				4				5		6		1		52			2	1	1	3
7.45-8.00	4		21				8	1	14						3		7		8		9		12		87	139		1	2	3	3
8.00-8.15	4		16		1		5		16						4		5		10		10	2	11		84	223	2	1	1	1	5
8.15-8.30	8		20		2		5		13		4				5		8		9		12		13		99	322	7	1	2	2	12
8.30-8.45	5		7		1		8		18		4				7		7		13		11		29		101	371					0
8.45-9.00	1		6		1		10		13		1		1		8		11		6		27		14		99	383	2		2	1	4
9.00-9.15	4		12		2		10		10		4		1		9		10		7		10		14		93	392	2			1	2
9.15-9.30	4	1	4				7		14		2	1			6		3		9	1	16	1	11		80	373	3	3			6
9.30-9.45																									0	272					0
9.45-10.00																									0	173					0
Total	32	1	108	0	9	0	56	1	107	1	16	1	2	0	46	0	51	0	71	1	101	3	96	0	Max Hr	392	16	8	8	9	32
	Overall peak hour: 8.15-8.30 to 9.00-9.15																									6					
Peak total	18	0	45	0	6	0	33	0	54	0	13	0	2	0	29	0	36	0	35	0	60	0	61	0	392		11	1	4	4	18
Light+HV	18		45		6		33		54		13		2		29		36		35		60		61								

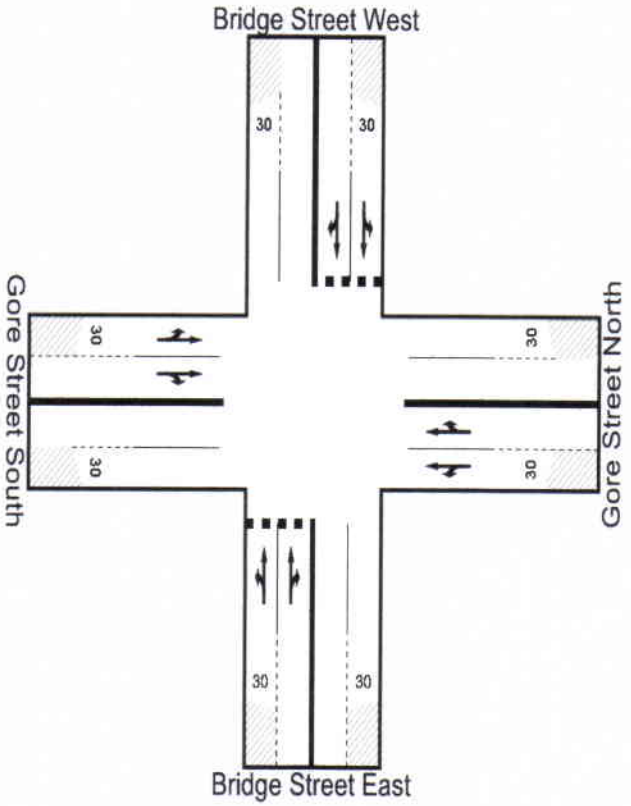
Time	1	H	2	H	3	H	4	H	5	H	6	H	7	H	8	H	9	H	10	H	11	H	12	H	1/4h totals	Hrly Total	P1	P2	P3	P4	1/4h totals
3.00-3.15																									0	Incl. Hvy					0
3.15-3.30																									0						0
3.30-3.45	4		7		0		3		5		3		1		7		5		6		18		20		79		1	0	4	0	5
3.45-4.00	3		7		0		4		8		4	1	1		6		4		7		14	2	11		72	151	1	1	0	1	3
4.00-4.15	2		5		2		6		9		1		3		6		3		10		13		20		80	231	2	2	2	5	11
4.15-4.30	1		7		1		4		5		1		0		4		8		4		14		13		62	293	2	2	0	0	4
4.30-4.45	2		6		1		6		11		3		0		9		12		7		21		18		96	318					0
4.45-5.00	4		4		2		10		7		1		0		3		9		10		14		16		80	318					0
5.00-5.15	0		4		0		4		7		0		0		12		6		6	1	15		33		88	326					0
5.15-5.30	2		4		2		7		8		2		0		9		12		5		15		17		83	347					0
5.30-5.45																									0	251					0
5.45-6.00																									0	171					0
Total	18	0	44	0	8	0	44	0	60	0	15	1	5	0	56	0	59	0	55	1	124	2	148	0	Max Hr	347	6	5	6	6	17
	Overall peak hour: 4.30-4.45 to 5.15-5.30																									7					
Peak total	8	0	18	0	5	0	27	0	33	0	6	0	0	0	33	0	39	0	29	1	65	0	84	0	347		0	0	0	0	0
Light+HV	8		18		5		27		33		6		0		33		39		29		65		84								



APPENDIX C
COUNCIL PLANS
FOR PROPOSED
GORE ST/BRIDGE ST
INTERSECTION UPGRADE
(Concept Only)


PROPOSED DEVELOPMENT SITE
GORE STREET
BRIDGE STREET
EXTENT OF WORKS THIS STAGE
PLAN
SCALE (A1 PLOT)
INTERSECTION WORKS GORE AND BRIDGE STREETS
(SHOWING CONCEPT FUTURE STREETSCAPING WORKS)
PLAN OF PROPOSED KERBING AND FOOTPATH WORKS
LEGEND:
Notes - General
Notes - Drainage
SETOUT DETAIL

APPENDIX D
SIDRA Modelling Results
GORE ST/BRIDGE ST INTERSECTION



MOVEMENT SUMMARY

Site: Existing 2010 AM

Gore St and Bridge St
Existing 2010 AM

Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South	Bridge Street East										
1	L	33	0.0	0.037	6.5	LOS A	0.1	0.9	0.10	0.58	42.9
2	T	54	0.0	0.063	6.4	LOS A	0.4	3.0	0.32	0.52	43.0
3	R	13	0.0	0.263	7.7	LOS A	0.4	3.0	0.32	0.67	42.3
Approach		122	0.0	0.263	6.8	LOS A	0.4	3.0	0.24	0.56	42.9
East	Gore Street North										
4	L	2	0.0	0.005	6.4	LOS A	0.0	0.0	0.00	0.67	43.3
5	T	29	0.0	0.034	0.1	LOS A	0.2	1.3	0.06	0.00	48.8
6	R	36	0.0	0.034	6.6	LOS A	0.2	1.3	0.15	0.62	42.9
Approach		67	0.0	0.034	3.8	LOS A	0.2	1.3	0.12	0.36	45.3
North	Bridge Street West										
7	L	35	0.0	0.040	6.7	LOS A	0.1	1.0	0.14	0.57	42.9
8	T	60	0.0	0.151	6.8	LOS A	0.6	4.1	0.35	0.53	42.8
9	R	61	0.0	0.151	6.2	LOS A	0.6	4.1	0.35	0.68	41.9
Approach		156	0.0	0.151	7.3	LOS A	0.6	4.1	0.50	0.60	42.4
West	Gore Street South										
10	L	18	0.0	0.010	6.4	LOS A	0.0	0.0	0.00	0.61	43.3
11	T	45	0.0	0.027	0.1	LOS A	0.2	1.3	0.11	0.00	48.6
12	R	6	0.0	0.027	6.5	LOS A	0.2	1.3	0.11	0.60	43.2
Approach		69	0.0	0.027	2.3	LOS A	0.2	1.3	0.06	0.23	46.8
All Vehicles		392	0.0	0.161	5.7	NA	0.9	6.1	0.22	0.48	43.7

LOS (Aver. Int. Delay): NA. "The average intersection delay is not a good LOS measure for two-way sign control due to zero delays associated with major road movements.
Level of Service (Worst Movement): LOS A. LOS Method for individual vehicle movements: Delay (RTA NSW).
Approach LOS values are based on the worst delay for any vehicle movement.

Processed: Thursday, 25 February 2010 3:34:18 PM
SIDRA INTERSECTION 4.0.16.1074
Project: X:\2009\Jobs\Gore St Medical Centre - 09167P\TRAFFIC MODELLING\Gore Bridge.sip
8000293, ROADNET PTY LTD, FLOATING

SIDRA INTERSECTION

MOVEMENT SUMMARY

Site: Existing 2010 PM

Gore St and Bridge St
Existing 2010 PM

Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South	Bridge Street East										
1	L	27	0.0	0.030	6.8	LOS A	0.1	0.7	0.10	0.58	42.9
2	T	33	0.0	0.046	6.1	LOS A	0.2	1.6	0.26	0.50	43.3
3	R	6	0.0	0.046	7.4	LOS A	0.2	1.6	0.26	0.66	42.5
Approach		66	0.0	0.046	6.4	LOS A	0.2	1.6	0.20	0.55	43.1
East	Gore Street North										
4	L	1	0.0	0.009	6.4	LOS A	0.0	0.0	0.00	0.69	43.3
5	T	33	0.0	0.036	0.0	LOS A	0.2	1.4	0.05	0.00	48.3
6	R	32	0.0	0.036	6.5	LOS A	0.2	1.4	0.29	0.64	43.0
Approach		72	0.0	0.036	3.6	LOS A	0.2	1.4	0.07	0.36	45.7
North	Bridge Street West										
7	L	29	0.0	0.045	6.7	LOS A	0.2	1.1	0.26	0.59	43.0
8	T	65	0.0	0.160	6.4	LOS A	1.0	6.9	0.29	0.50	43.1
9	R	84	0.0	0.160	7.8	LOS A	1.0	6.9	0.32	0.65	42.2
Approach		178	0.0	0.160	7.1	LOS A	1.0	6.9	0.27	0.59	42.6
West	Gore Street South										
10	L	8	0.0	0.004	6.4	LOS A	0.0	0.0	0.00	0.61	43.3
11	T	18	0.0	0.013	0.1	LOS A	0.1	0.6	0.11	0.00	48.5
12	R	5	0.0	0.013	6.5	LOS A	0.1	0.6	0.11	0.76	43.2
Approach		31	0.0	0.013	2.8	LOS A	0.1	0.6	0.05	0.28	46.1
All Vehicles		348	0.0	0.160	5.8	NA	1.0	6.9	0.20	0.50	43.6

LOS (Aver. Int. Delay): NA. "The average intersection delay is not a good LOS measure for two-way sign control due to zero delays associated with major road movements.
Level of Service (Worst Movement): LOS A. LOS Method for individual vehicle movements: Delay (RTA NSW).
Approach LOS values are based on the worst delay for any vehicle movement.

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Project: X:\2009\Jobs\Gore St Medical Centre - 09167P\TRAFFIC MODELLING\Gore Bridge.sip
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SIDRA INTERSECTION

MOVEMENT SUMMARY

Site: Devel 2010 AM

Gore St and Bridge St
With Development 2010 AM

Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop Queued	Effective Stop Rate per veh	Average Speed km/h
South	Bridge Street East										
1	L	33	0.0	0.042	6.7	LOS A	0.2	1.1	0.29	0.58	43.0
2	T	117	0.0	0.166	7.1	LOS A	0.9	6.5	0.40	0.56	42.6
3	R	13	0.0	0.166	6.5	LOS A	0.9	6.5	0.41	0.75	41.8
Approach		163	0.0	0.166	7.2	LOS A	0.9	6.5	0.34	0.60	42.6
East	Gore Street North										
4	L	2	0.0	0.015	6.4	LOS A	0.0	0.0	0.00	0.69	43.3
5	T	25	0.0	0.060	0.0	LOS A	0.3	2.1	0.01	0.00	49.8
6	R	78	0.0	0.060	6.7	LOS A	0.3	2.1	0.15	0.58	42.8
Approach		105	0.0	0.060	4.9	LOS A	0.3	2.1	0.14	0.43	44.3
North	Bridge Street West										
7	L	64	0.0	0.061	6.8	LOS A	0.3	2.1	0.15	0.56	42.7
8	T	108	0.0	0.325	6.4	LOS A	2.0	14.1	0.47	0.60	41.4
9	R	110	0.0	0.325	9.9	LOS A	2.0	14.1	0.46	0.79	40.6
Approach		282	0.0	0.326	6.6	LOS A	2.0	14.1	0.40	0.67	41.3
West	Gore Street South										
10	L	39	0.0	0.021	6.4	LOS A	0.2	0.0	0.00	0.61	43.3
11	T	45	0.0	0.027	0.1	LOS A	0.2	1.3	0.11	0.00	46.6
12	R	6	0.0	0.027	6.5	LOS A	0.2	1.3	0.11	0.60	43.2
Approach		90	0.0	0.027	3.3	LOS A	0.2	1.3	0.06	0.32	45.8
All Vehicles		644	0.0	0.325	6.9	NA	2.0	14.1	0.29	0.56	42.7

LOS (Aver. Int. Delay): NA. The average intersection delay is not a good LOS measure for two-way sign control due to zero delays associated with major road movements.
Level of Service (Worst Movement): LOS A. LOS Method for individual vehicle movements: Delay (RTA NSW).
Approach LOS values are based on the worst delay for any vehicle movement.

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SIDRA INTERSECTION

MOVEMENT SUMMARY

Site: Develop 2010 PM

Gore St and Bridge St
Development 2010 PM

Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop Queued	Effective Stop Rate per veh	Average Speed km/h
South	Bridge Street East										
1	L	27	0.0	0.230	6.6	LOS A	0.1	0.7	0.10	0.58	42.9
2	T	95	0.0	0.116	6.8	LOS A	0.6	4.4	0.37	0.56	42.8
3	R	6	0.0	0.115	6.1	LOS A	0.6	4.4	0.37	0.73	42.1
Approach		118	0.0	0.116	6.6	LOS A	0.6	4.4	0.31	0.57	42.8
East	Gore Street North										
4	L	1	0.0	0.016	6.4	LOS A	0.0	0.0	0.00	0.91	43.3
5	T	33	0.0	0.017	0.0	LOS A	0.4	2.8	0.00	0.00	50.0
6	R	121	0.0	0.073	6.6	LOS A	0.4	2.8	0.12	0.58	42.9
Approach		155	0.0	0.073	5.0	LOS A	0.4	2.8	0.09	0.44	44.4
North	Bridge Street West										
7	L	45	0.0	0.067	6.9	LOS A	0.3	2.4	0.10	0.59	42.9
8	T	112	0.0	0.351	7.9	LOS A	2.3	16.1	0.41	0.59	41.8
9	R	144	0.0	0.350	9.6	LOS A	2.3	16.1	0.49	0.77	40.6
Approach		305	0.0	0.351	6.6	LOS A	2.3	16.1	0.40	0.68	41.4
West	Gore Street South										
10	L	21	0.0	0.011	6.4	LOS A	0.0	0.0	0.00	0.61	43.3
11	T	19	0.0	0.013	0.1	LOS A	0.1	0.6	0.11	0.00	46.5
12	R	5	0.0	0.013	6.5	LOS A	0.1	0.6	0.11	0.76	43.2
Approach		44	0.0	0.013	3.8	LOS A	0.1	0.6	0.06	0.36	45.3
All Vehicles		602	0.0	0.351	7.1	NA	2.3	16.1	0.29	0.58	42.6

LOS (Aver. Int. Delay): NA. The average intersection delay is not a good LOS measure for two-way sign control due to zero delays associated with major road movements.
Level of Service (Worst Movement): LOS A. LOS Method for individual vehicle movements: Delay (RTA NSW).
Approach LOS values are based on the worst delay for any vehicle movement.

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SIDRA INTERSECTION

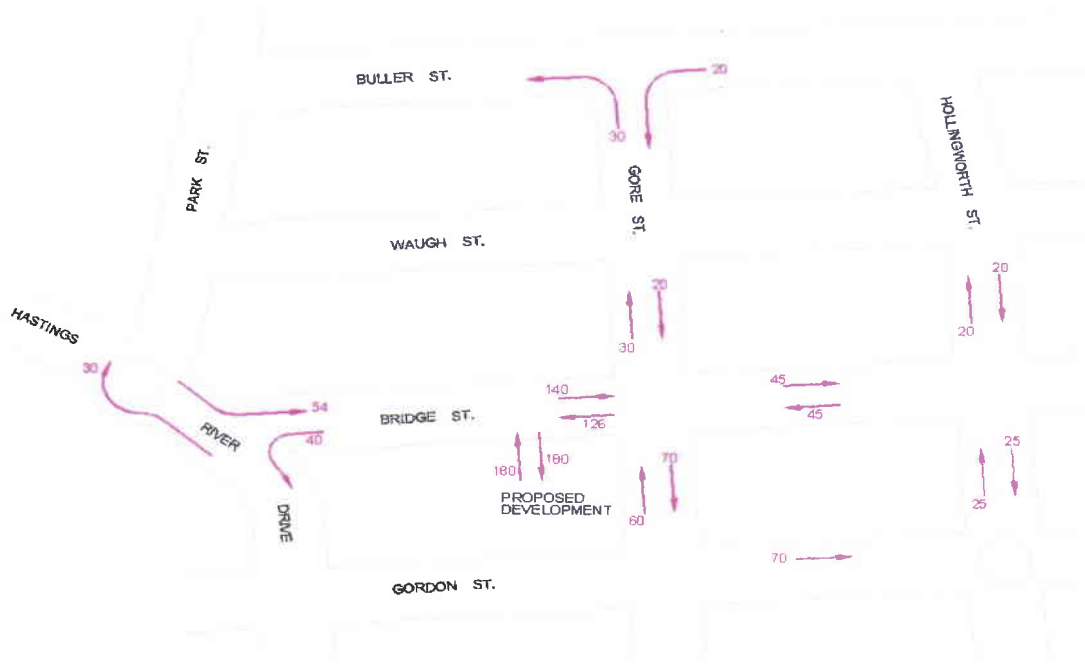


Figure 6 – The Estimated Impacts of Peak Hour Volumes Generated by the Proposed Development on local roads.

4.7 Future intersection upgrade

Port Macquarie-Hastings Council has provided RoadNet with concept layout plans for a future upgrade of the Gore Street/Bridge Street intersection (see Appendix C). The plans indicate landscaped kerb blisters are proposed at each of the four corners, resulting in:

- Narrowing of the 'through' lanes in both streets
- Formalising of 45° 'rear to kerb' angle parking in Gore Street
- Formalising of parallel parking in Bridge Street
- Provision of pedestrian ramps
- Provision of centre medians to control turning movements and provide additional pedestrian safety

5 ASSESSMENT OF TRAFFIC IMPACTS

The increase in traffic generated by the proposed development will have impacts on adjacent roads and intersections. The development will also generate pedestrians and require consideration of impacts on existing public transport.

5.1 Roads

The proposed development has frontage to Bridge Street and Gore Street. Both are fully formed local roads with Bridge Street having a 16m wide formation, and Gore St being 20m between kerbs. The current total capacity of both roads is in the order of 1200 vehicles per hour. Current traffic volumes are relatively low, with RoadNet's traffic count indicating Gore Street currently handles a peak volume of 192 vph, while Bridge Street's peak hour volume was 258 vph.

The traffic to be generated by the proposed development will increase peak hour traffic volumes in Bridge Street to approximately 300vph and Gore Street to approximately 220vph. Both roads have adequate capacity to cater for the increased traffic volumes with ease.

5.2 Intersections

The existing intersection of Gore and Bridge Streets has adequate capacity to cater for current traffic volumes. RoadNet assessed the existing operation of the intersection using SIDRA modelling, and found that each of the 12 movements through the intersection had a level of service (LOS) of A, (see Appendix 4). LOS A is described in Austroads as 'a condition of free flow in which individual drivers are virtually unaffected by the presence of others in the traffic stream. Freedom to select desired speeds and to manoeuvre within the traffic stream is extremely high, and the general level of comfort and convenience provided is excellent.'

The intersection was also modelled using the estimated traffic generation of the proposed development, taking into account the traffic assignment, and found no change to the level of service of the intersection. The results of the SIDRA modelling can be found in Appendix 4.

As discussed previously in this report, the intersection of Hastings River Drive and Bridge Street is currently congested, with long delays for vehicles turning in Hastings River Drive during peak hours, particularly the right hand turn out of Bridge Street. The proposed development will generate additional traffic at this intersection, resulting in approximately 100 extra vehicles during peak times. Fifty (50) of these vehicles will be exiting the proposed development and heading west along Bridge Street, with the majority turning left at Hastings River Drive. The current right turn out of Bridge Street experiences long delays (100+ seconds) during peak hours. Accordingly, the additional traffic generated by the development would probably take an alternative route to avoid adding to the delays.

No improvements are proposed to intersection as a result of the development.

5.3 Gordon and Hollingworth Streets

The existing roundabout at Gordon and Hollingworth Streets has been inspected during morning and afternoon peak periods. Observations show that it has adequate spare capacity to accommodate the additional traffic generated by the development ie approximately 1 car per minute entering from Gore Street and 1 vehicle per minute from any of the other three approaches.

5.4 Pedestrians

The manual traffic count undertaken as part of this assessment indicated a relatively low number of pedestrians in the vicinity of the Bridge and Gore Street intersection. However, the proposed medical centre is likely to generate a large number of pedestrians, with the majority likely to walk between the proposed development and public transport in Gordon Street.

Council's proposed plans for the upgrade of Gore Street and Bridge Streets (see Appendix C) indicate future footpaths are proposed in Gore Street, linking Bridge Street and Gordon Street, in addition to kerb blisters and pram ramps at the Gore Street and Bridge Street intersection, resulting in improved pedestrian access. A footpath currently exists across the Gore St frontage of the adjoining lot, to the south of the subject site, linking the Gordon Street to the southern boundary of the development site.

The design plans for the proposed development (see Appendix A) indicates footpaths will be constructed across the full Gore Street and Bridge Street frontages of the proposed development.

5.5 Public transport

RoadNet's undertook an onsite carpark assessment of 'The Hermitage' medical centre, as the proposed Gore Street medical centre is likely to include similar activities. It was noted that many of the patients accessed the Hermitage site via taxis, community transport or via the adjacent bus services. It is likely patients will access the proposed development via similar methods.

The proposed site will be located approximately 100 metres from an existing bus stop in Gordon Street. As detailed above, a footpath currently links the site to Gordon Street. There is no obvious need for additional public transport facilities as a result of the redevelopment. Consideration should be given to one on-street parking space being allocated as a Taxi stand adjacent to the main entry in Gore Street. A set down and pick up of patients adjacent to the main entry in Gore Street would be of benefit.

5.6 Site Access

Vehicular access to the site will be via two locations. The first will be a driveway directly off Bridge Street to the lower (basement level) undercover parking area. The second will be off a proposed laneway to be constructed across the southern boundary of the development site. A driveway will provide access to the upper (ground floor) undercover parking area.

Both driveways will be at least 40 metres clear of the existing intersection of Gore and Bridge Streets, and therefore comply with Section 3.2.3 (Access driveway location) of AS 2890 (Off-street Car Parking). Sight distance from the proposed Gore Street access is approximately 50m to the right (towards Gordon St) and approximately 65m to the left (to traffic turning out of Bridge St). Sight distance from the proposed Bridge Street driveway will be approximately 200m to the left (from Hastings River Drive) and approximately 45m to the right (to vehicles turning from Gore St). These distances comply with AS 2890 (Off-street Car Parking) which provides sight distance requirements for access driveways, which states that minimum approach sight distance is 47m and desirable distance of 54m for a 50kph speed environment. However, it is likely that average vehicle speeds will be much lower than 50kph in the vicinity of the existing intersection.

The relatively low traffic volumes in both Gore and Bridge Streets, combined with adequate sight distances and low traffic speeds will result in safe and easy access to and from both proposed access points of the proposed development. The proposed upgrade of the Gore and Bridge Street intersection (as per Council's design plans – Appendix C) will further improve access to and from the site by defining the intersection, and reducing vehicle speeds by narrowing the width of traffic lanes through the intersection.

6 CONCLUSIONS

This traffic study shows that:

- The proposed development will not adversely impact on traffic flows or safety in Gore Street or Bridge Street, due to the current low traffic volumes.
- Current traffic volumes in both Gore Street and Bridge Street in the vicinity of the proposed development are relatively low and the adjacent intersection has a current Level of Service of A. There is adequate capacity in the adjacent roads to cater for the increased traffic to be generated by the proposed medical centre. The additional traffic generated will not create an unsafe operating environment on the adjacent network, nor create undue delays at the adjacent intersection.
- The proposed location of the future access driveways of the development is acceptable. Sight distance for future vehicles entering and exiting the two proposed access driveways will be satisfactory, while the adjacent roads are wide and have relatively low traffic volumes.
- Of the patients/customers accessing the existing 'Hermitage' medical centre (a similar development to the proposal) by motor vehicle, approximately 45% stayed less than 15 minutes, with over 10% staying for 1 minute or less.
- Vehicles turning from Bridge Street into Hastings River Drive currently experience long delays, particularly vehicles turning right. The proposed development would potentially increase the volume of traffic at this intersection adding to the congestion. However, the existing delays would dissuade its use in peak hours.

7 RECOMMENDATIONS

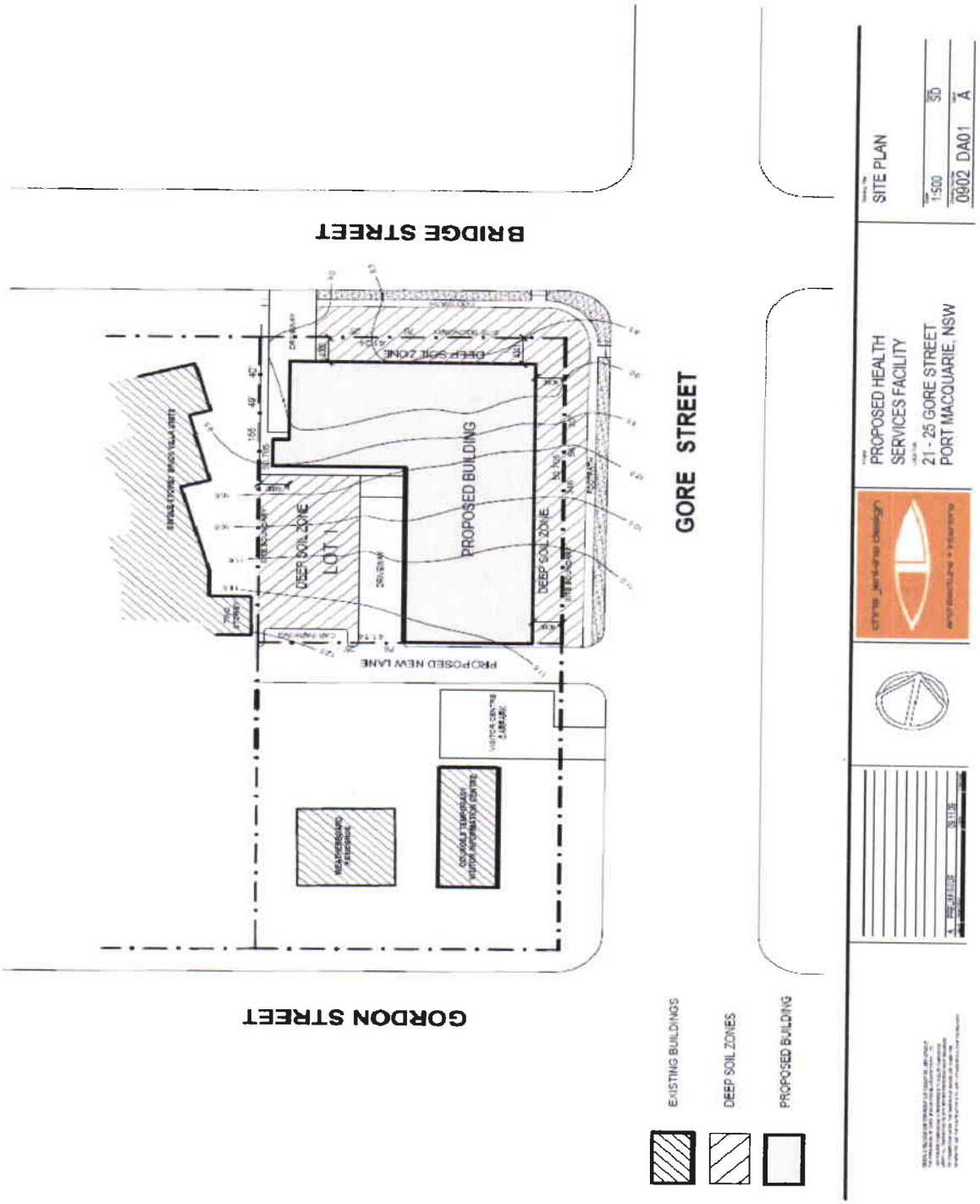
The following actions are recommended to further improve the safety and efficiency of the site for staff, patients and customers.

- Due to the expected high percentage of 'short-stay' customers, provision of a 'Drop Off' zone for set down and pick up of patients adjacent to the main entry in Gore Street is recommended. This will reduce the number of parking spaces required, and also provide better sight distance for vehicles exiting the proposed Gore St driveway.
- Install a Taxi stand (one parking space) at the Gore Street entry.
- Provision of pedestrian connection to existing Gordon Street bus stop. This will include construction of a footpath across the frontage of the site, connecting with the existing footpath in Gore Street.
- Provision of disabled access to the building should link with the proposed pedestrian and existing public transport facilities in adjacent streets.
- Do nothing at the Bridge Street / Hastings River Drive intersection.

APPENDICES

APPENDIX A

SITE LAYOUT PLAN



REVERB ACOUSTICS
Noise and Vibration Consultants

Our Ref: 10-1437-L1

26 March 2010

Marline Newcastle Pty Ltd
239 King Street
NEWCASTLE NSW 2300

Ph. (02) 4926 5266
Fax. (02) 4926 3811

Attention: Brian Hunt
cc. Chris Jenkins (Chris Jenkins Design)

email: BHunt@marline.com.au
email: cjdesign@tsn.cc

MECHANICAL PLANT NOISE IMPACT ASSESSMENT
GORE STREET HEALTH SERVICES FACILITY, PORT MACQUARIE

INTRODUCTION

Reverb Acoustics has been commissioned to conduct a noise impact assessment for a proposed Health Service Facility at 21-25 Gore Street, Port Macquarie. The purpose of this assessment is to theoretically determine the noise impact mechanical plant (air conditioning, exhaust) will have on nearby receivers and to recommend acoustic modifications that must be incorporated into the design to ensure compliance with the criteria.

The Assessment was requested by Marline Newcastle Pty Ltd in support of and to accompany a Development Application to Port Macquarie Hastings Council (PMHC). Note that this assessment is restricted to assessment of mechanical plant noise at nearby residential receivers.

REFERENCED DOCUMENTS

Information supplied by other parties, relied on during preparation of this review include:

Chris Jenkins Design (November 2009). *Architectural Plans for the Development.*

Marline Newcastle Pty Ltd (2010). *Preliminary mechanical plant design sketches.*

Other references and documents relied on, but not specifically prepared for the project include:

AS 2107-2000 *"Acoustics-Recommended Design Sound Levels and Reverberation Times for Building Interiors".*

NSW Environment Protection Authority (1999). *Industrial Noise Policy*

Department of Environment and Climate Change NSW (2007). *Noise Guide for Local Government.*

PROJECT DESCRIPTION

The proposal involves construction of a health services facility at 21-25 Gore Street, Port Macquarie. The building will consist of 2 lower levels of undercover carparking and a further 4 levels of commercial space. Mechanical plant (air conditioning, exhaust) will be required to ventilate habitable spaces. We understand that carpark exhaust will be ducted to discharge outlets on the roof of the development, while 16 air conditioning condensers will be located on a dedicated plant deck at the south end of the building on level 4.

The exact type of mechanical plant has not been finalised at the time of writing this report, so this assessment is based on generic plant deck layout for similar sized retail developments.

Nearest residential neighbours potentially affected by mechanical plant noise emissions, identified by our client, are as follows (see Figure 1):

R1 Single storey residence, approximately 30m south of the proposal.
R2 Double storey villas directly west of the proposal.
R3 Single storey villas directly west of the proposal.
R4 Single storey residence east of the proposal across Gore Street

This assessment will focus on the noise impact at nearest receivers noted above, and it should be acknowledged that compliance with criteria at these locations will ensure compliance at more remote locations. Plans supplied by Chris Jenkins Design show the layout of the site and the location of nearby land uses.

Figure 1: Site Plan

EXISTING ACOUSTIC ENVIRONMENT

Consideration must be given to the extent of the existing acoustic environment and whether such levels are appropriate for the land use of the receiver area. In the absence of site measurements, acceptable average background for residential areas have been sourced from Australian Standard 1055.3-1997, Appendix A, which describes average background noise levels (L90) for residential areas within Australia for various types of receivers. Extracts from the Standard are reproduced in Table 1:

Table 1: Estimated Average Background A-Weighted Sound Pressure Levels (LA90,T) For Different Areas Containing Residences in Australia - AS 1055.3-1997

	Average Background Sound Level, L90 – dB(A)		
Description of Neighbourhood	**0700 – 1800 (Day)**	**1800 – 2200 (Evening)**	**2200 – 0700 (Night)**
Medium density transportation or some commerce or industry.	50	45	40
Dense transportation or some commerce or industry.	55	50	45

ASSESSMENT CRITERIA

Noise from industrial noise sources scheduled under the Protection of Environment Operations Act is assessed using the Department of Environment, Climate Change and Water's (DECCW's) – Industrial Noise Policy (INP). However, local Councils may also apply the criteria for land use planning, compliance and complaints management. The INP specifies two separate criteria designed to ensure existing and future developments meet environmental noise objectives. The first limits intrusive noise to 5dB(A) above the background noise level and the other aims to protect against progressively increasing noise in developing areas, based on the existing (Leq) noise level from industrial noise sources. Project Specific Noise Levels are established for new developments by applying both criteria to the situation and adopting the more stringent of the two.

The L(A)eq for residences near commercial development is dominated by traffic on nearby roads, commercial activity, etc, during the day and evening, and traffic/mechanical plant at night. Reference to Table 2.1 of the INP shows that the area is classified as urban, i.e. acoustic environment dominated by traffic generated urban hum, and industrial noise contributions are more than 6dB(A) below the recommended Leq, so the recommended Acceptable Noise Level (ANL) applies in this case, i.e. no ANL reduction required for industrial noise contributions.

Similarly, at night average industrial noise contributions are more than 6dB(A) below the recommended Leq, so the recommended Acceptable Noise Level (ANL) applies.

Table 2: - Base Noise Level Objectives

Period	Intrusiveness Criterion	Amenity Criterion
Day	55 (50+5)	60
Evening	50 (45+5)	50
Night	45 (40+5)	45
Receiver Type: Urban (See DEC's INP - Table 2.1)		

Project specific noise levels, determined as the more stringent of the intrusiveness criterion and the amenity / high traffic criterion, are as follows:

Residential Receivers

Day **55dB LAeq,15 Minute** 7am to 6pm Mon to Sat or 8am to 6pm Sun and Pub Hol.
Evening **50dB LAeq,15 Minute** 6pm to 10pm
Night **45B LAeq,15 Minute** 10pm to 7am Mon to Sat or 10pm to 8am Sun and Pub Hol.

Commercial Premises

65-70dB LAeq,15 Minute when in use

Cognate assessment criteria for the assessment of quasi-steady-state noise sources, such as continuous road traffic and mechanical services, are sourced from AS/NZS 2107-2000 *"Acoustics-Recommended Design Sound Levels and Reverberation Times for Building Interiors"* and are detailed below.

Room Type	dBA
RESIDENTIAL BUILDINGS	
Houses and apartments near major roads	
Living areas	35 – 45
Sleeping areas	30 – 40

Criteria taken from AS/NZS2107-2000 are taken inside the receiver. Section 4.1.2 of the DECCW's Interim Construction Noise Guideline (ICNG) suggests a conservative estimate of the difference between internal and external noise levels is 10dB, which we are in agreement with for a window open 20% to provide ventilation. Based on the above, limits, external limits taken from AS/NZS2107-2000 equate to 45dB(A),Leq for living areas and 40dB(A),Leq for sleeping areas in any residential premises.

In summary, the criterion adopted for assessment purposes is **40dB(A),Leq**, calculated at the external facade of any residence.

ANALYSIS

A sample calculation of noise from proposed air conditioning condensers on the Level 4 deck is shown in Table 3 below, propagated to residential villas (R2) west of the site using an equation[1] giving the sound field due to an incoherent plane radiator.

Table 3: Calculated SPL, Level 4 Condensers
Propagated West to Double-Storey Residential Villas (R2)

		Octave Band Centre Frequency, Hz							
Item	**dB(A)**	**63**	**125**	**250**	**500**	**1k**	**2k**	**4k**	**8k**
Lw, plant (x16)	**80**	54	63	68	72	74	75	70	60
Distance loss (20m)		34	34	34	34	34	34	34	34
Virtual source[1]		2	2	2	2	2	2	2	2
Barrier loss[1]		6	7	9	11	14	17	19	22
SPL at receiver[2]	**40**	22	30	33	35	34	32	25	12
Criteria	**40**								
Impact	**0**								

1. Reflection of building wall. 2. Acoustic barrier 2100mm in height.

[1] Equation (5.104), DA Bies and CH Hansen, *Engineering Noise Control*, E & FN Spon, 1996.

Similar calculations to those above have been carried out to predict the noise impact from plant at all nearby residential receivers. Table 4 shows a summary of our results:

Table 4: Calculated SPL, Level 4 Condensers Propagated to Nearest Residential Receivers

Location/Situation	R1 - South S-St Res	R2 - West D-St Villas	R3 – N. West S-S Villas	R4 - East S-St Res
Lw, plant (x16)	80			
Distance loss	35m, -39	20m, -34	30m, -38	40m, -40
Virtual source[1]	2	2	2	2
Ave. Barrier loss[1]	11	11	11	11
SPL at receiver[2]	38	40	36	34
Criteria	**40dB(A),Leq (15 minute)**			
Impact	-	-	-	-

As can be seen by the above results, combined noise emissions from Level 4 air conditioning condensers are predicted to be compliant with the adopted criterion at all nearby residential receivers, providing an acoustic barrier 2100mm in height is erected at the perimeter of the deck. See the following Section of this letter for more detailed acoustic modification requirements.

NOISE CONTROL RECOMMENDATIONS

Level 4 Air Conditioning Plant

a) Acoustic barriers 2100mm in height must be erected at the perimeter of the Level 4 plant deck. Barrier construction may consist of 6mm safety glass, 12mm fibre cement sheeting, stud wall construction, masonry, or materials of equivalent surface mass. A gap of 100-150mm may be left at floor level to aid in ventilation, cleaning, etc.

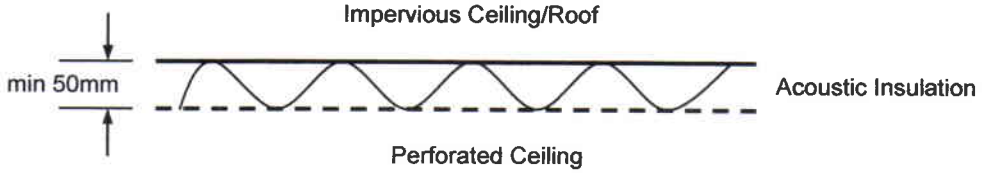
Should impervious acoustic barriers create ventilation problems, we recommend installing acoustic louvres. The louvres must have the following insertion loss values (typically Fantech SBL1, Nap Silentflo 300S Line or Robertson Type 7010):

Required Insertion Loss Values for Acoustic Barriers – dB

	Octave Band Centre Frequency, Hz							
	63	**125**	**250**	**500**	**1k**	**2k**	**4k**	**8k**
NR	10	12	15	19	20	18	18	14
STL	4	6	9	13	14	12	12	8

b) We understand that no roof/ceiling is proposed above the plant deck. However, if the deck is partially or fully covered, an absorbent underside will be required to the roof area. We recommend a perforated metal ceiling to the underside of the roof, i.e. Luxalon, Renhurst, minimum 10% open area, backed with R2/S2 fibreglass or polyester insulation. Alternatively, install a perforated plasterboard, perforated FC sheet ceiling with cavity insulation backing.

Figure 2: Absorbent Ceiling Detail to Deck



Exhaust Plant

c) Any exhaust plant that produces noise in excess of 65dB(A) at a distance of 1 metre from the discharge must be acoustically treated. Available options include lining all connected ducts with 50mm internal insulation and installing in duct silencers. Silencers must have the following insertion loss values:

Required Insertion Loss Values for Exhaust Attenuators – dB

	Octave Band Centre Frequency, Hz							
	63	**125**	**250**	**500**	**1k**	**2k**	**4k**	**8k**
dB	4	6	8	14	16	21	18	16

d) If exhaust plant is located in plant rooms in the carpark, plant room doors must be fitted with proprietary acoustic seals at door surrounds. Any supply/exhaust fans in plant room roof/walls must not produce an SLP >62dB(A) at 1 metre. Acoustically rated ducts/louvres must be installed at plant room side of fan for any roof opening.

e) The contractor responsible for supplying and installing mechanical plant must provide evidence that installed plant meets this noise emission limit, or that noise control included with the plant is effective in reducing the sound level to the specified limit. Once the plant layout has been finalised, details should be forwarded to the acoustic consultant for approval. Revision of the plant layout may result in altered acoustic design.

In conclusion, providing the above acoustic recommendations are incorporated into the design of proposed air conditioning and exhaust plant, noise emissions will be compliant with the adopted criteria during all time periods. Note that all calculations have been based on manufacturers' acoustic data for all plant. Once selection has been finalised, details should be sent to the acoustic consultant for approval.

We assume this concludes our involvement in the project thus far. However, should you require further assistance, please contact the undersigned.

REVERB ACOUSTICS

Steve Brady A.A.A.S. M.A.S.A.
Principal Consultant

State Environmental Planning Policy No. 71 - Coastal Protection

The proposal satisfies the applicable requirements of this SEPP. The assessment table provided below provides consideration of the proposal in accordance with applicable clauses of the SEPP.

Applicable clauses for consideration	**Comments**	**Satisfactory**
Public access and usage to and along coastal foreshore - 8(b)(c)(k) and 2(1)(b)(c)	Site is not within close proximity to any coastal foreshore.	Yes
Suitability of the Development - 8(d) and 2(1)(k)	The proposal complies with the desired future urban character envisaged in the objectives and guidelines contained in Council's adopted PM-H DCP 2006 for the site and immediate locality.	Yes
Amenity of coastal foreshore - 8(e)(f) and 2(1)(a)(e)(f)	Site is not within close proximity to any coastal foreshore and will not detract from its amenity.	Yes
Flora and Fauna - 8(g)(i) and 2(1)(g)	Site is cleared of all vegetation. No significant adverse flora and/or fauna impacts identified.	Yes
Marine Ecology - 8(h)(m) and 2(1)(h)(i)	The proposal will be unlikely to impact on any existing marine ecology.	Yes
Coastal Processes and Coastal Management- 8(j) and 2(1)(j)(l)	The proposal will be unlikely to be affected by any existing coastal processes or compromise any coastal management initiatives.	Yes
Heritage, History and Archaeology - 8(l)(n)	The site is not identifiable as having any historical or heritage value.	Yes
Cumulative Impact - 8(p)(i)	No significant adverse cumulative impacts identified.	Yes
Energy and water efficiency - 8(p)(ii)	BASIX not applicable.	Yes
Public Access (14)	Site is not within close proximity to any coastal foreshore.	Yes
Stormwater (16)	The proposal will be unlikely to discharge any untreated stormwater into the sea, a beach, or an estuary, a coastal lake, a coastal creek or other similar body of water, or onto a rock platform.	Yes

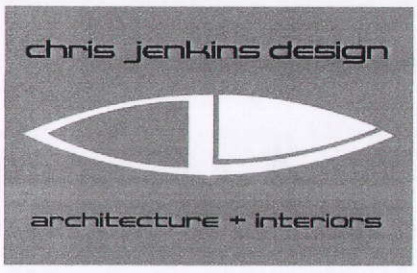
STATEMENT OF ENVIRONMENTAL EFFECTS

PROPOSED HEALTH SERVICES FACILITY

AT LOT 1, D.P. 758853
21-25 GORE STREET, PORT MACQUARIE, N.S.W

FOR EAST WEST BUSINESS GROUP PTY. LTD.

NOVEMBER 2009



CHRIS JENKINS DESIGN – ARCHITECTS PTY LTD
P.O. BOX 1810, PORT MACQUARIE 2444
T 02 6584 1740 F 02 6584 290
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1. THE SITE

The site is Lot 1 DP758853, 21 Gore Street, Port Macquarie, N.S.W. It is approximately 2,091.07 square metres (sqm) in area. It is located on the south west corner of the intersection of Gore and Bridge Streets, with a frontage of 50.705 metres to Gore Street and 41.24 metres to Bridge Street. The natural topography of the site is sloping with a fall of approximately three (3) metres from the south boundary RL 12.0, to the northern boundary at the rear RL 9.0.

The is vacant site.

2. DESCRIPTION OF THE PROPOSAL

The proposal is to construct a new building which would be provide dedicated space for use by specialist medical and allied health services over four levels, and car parking at Ground Level at Bridge Street and a basement car park.

The ground floor car park contains 29 car parking spaces and would be accessed off a proposed new lane which runs along the southern boundary of the property, between Gore Street and Council's existing car park to the south west of the site. The basement car park contains 32 car parking spaces and would be accessed off Bridge Street adjacent to the northern boundary of the site. An additional two (2) car parking spaces are proposed in a layover on the northern side of the proposed laneway, but on the subject property, which would give a total of 63 off street car parking spaces on the property.

3. ENVIRONMENTAL PLANNING & ASSESSMENT ACT SECTION 90 (1) MATTERS FOR CONSIDERATION

The following matters are required to be considered under section 79(C) of the Environmental Planning and Assessment Act:

(3.1) the provisions of any environmental planning instrument, draft environmental planning instrument, or development control plan.

HASTINGS LOCAL ENVIRONMENT PLAN 2001

The subject land is zoned 2(a) Residential under the Hastings Local Environment Plan 2001. The objectives of this zone are-

(a) To allow a range of retail, office and commercial development appropriate to the status and function of the particular retail centre within the zone.
(b) To allow a wide range of uses which may be ancillary to, supportive of, or appropriately located near, or within, retail and commercial facilities.
(c) To facilitate strong, multi-functional town centres.
(d) To enable appropriate development where allowed with consent.

The medical centre is a permissible use, with consent under the LEP, however its size is limited to three (3) consultants.

STATE ENVIRONMENTAL PLANNING POLICY (INFRASTRUCTURE) 2007

The provisions of SEPP (Infrastructure) 2007 apply and override the LEP definition of a Medical Centre.

The SEPP permits a "health services facility" in a "prescribed zone".

A "health services facility" is defined as "a facility used to provide medical or other services relating to the maintenance or improvement of the health, or the restoration to health, of persons or the prevention of disease in or treatment of injury to persons".

The proposed development would be best described as a "health services facility".

A "prescribed zone" means a land use zone or a land use zone that is equivalent to "R1 General Residential, R3 Medium Residential or R4 High Residential". The current Residential 2(a) would be equivalent to a prescribed zone.

The proposed development is permissible use, with consent under the provisions of SEPP (Infrastructure) 2007.

NORTH COAST REGIONAL ENVIRONMENT PLAN

The proposal is consistent with the relevant provisions of the North Coast Regional Environment Plan (REP) 1988 which sets out the State Governments objectives for development on the north coast of New South Wales.

HASTINGS DEVELOPMENT CONTROL PLAN (DCP) No. 18 – OFF STRET CAR PARKING CODE

Car parking is in accordance with the requirements of the DCP No.18 - Off Street Car Parking Code as follows:

GROUND -	Cafe 52 sqm. @ 1 space/ 30 sqm.	= 1.7 spaces
LEVEL 1 -	2 Tenancies x 2 consulting rooms @ 3 spaces / consulting room	= 12 spaces
	2 tenancies x 4 employees @ 1 space / 2 employees	= 4 spaces
LEVEL 2 -	2 Tenancies x 2 consulting rooms @ 3 spaces / consulting room	= 12 spaces
	2 tenancies x 4 employees @ 1 space / 2 employees	= 4 spaces
LEVEL3 -	2 Tenancies x 2 consulting rooms @ 3 spaces / consulting room	= 12 spaces
	2 tenancies x 4 employees @ 1 space / 2 employees	= 4 spaces
LEVEL 4 -	2 Tenancies x 2 consulting rooms @ 3 spaces / consulting room	= 12 spaces
	2 tenancies x 4 employees @ 1 space / 2 employees	= 4 spaces
TOTAL REQUIRED CARPARKING		= 65.7 spaces

A total of 66 car parking spaces are required to satisfy Council requirements, and 63 spaces are provided within the development, including 61 under the building and 2 parking spaces in the layover adjacent to the new laneway. There is a shortfall of three (3) on site car parking spaces.

HASTINGS DEVELOPMENT CONTROL PLAN (DCP) No. 49 – WESTPORT PRECINCT

The DCP contains a number of controls to ensure development is co-ordinated across the Westport Precinct. The controls and how the proposed development relates to them are as follows:

1. Precinct –

The Site is located on the north west corner of Gore and Bridge Streets – Block 4.

2. Block Controls

B.C. 1 Lot Size

Lot width along the street frontage Min. 28m. – Max. 42m.

The proposed building conforms with the lot size controls.

B.C. 2 Building Footprint

Overall building foot print depth : 20m. max.

Residential Plan depth :18m. max.

Commercial plan depth : 30m. max.

The proposed building conforms with the building footprint controls.

B.C. 3 Building Type

Hybrid Residential Flat Building

The proposed building is a professional medical centre.

B.C. 4 Building Use

Residential Only.

The proposed building does not conform with the preferred use, however the LEP and the Infrastructure SEPP permit a medical centre in this zone.

B.C. 5 Height

The height limit of 5 storeys.

The proposed building conforms with the height limit.

B.C. 6 Deep Soil Zone

Front deep soil zone :

Gore Street : 4 metres DSZ depth measured off the boundary, min. 70% of boundary length

The proposed building conforms with the front deep soil zone controls.

Bridge Street : 4 metres DSZ depth measured off the boundary, min. 70% of boundary length

The proposed building conforms with the front deep soil zone controls.

Rear deep soil zone :

min. 50% of all rear DSZ to be incorporated into private open space for ground floor apartments

Depth : Min.6 metres for lots with depth of 30 metres or less
Min.10 metres for lots with depth of 30-40 metres
Min.15 metres for lots with depth greater than 40 metres

Length : DSZ to extend the length of the rear property boundary where possible or a minimum 85% of the rear property boundary length.

The proposed building conforms with the rear deep soil zone controls.

B.C. 7 Setbacks

Bridge Street setback : 4 metres for Levels 1 -4 and 7 metres for Level 5.

The proposed building complies.

Gore Street setback : 4 metres for Levels 1 -4 and 7 metres for Level 5.

The proposed building complies.

New Lane setback : 0 metres for Levels 1 -4

The proposed building complies.

Side Setbacks :

1.5 metres for building elevations with no windows.

3 metres for building elevations with no habitable rooms or balconies

6 metres for building elevations with no habitable rooms or balconies and off set windows.

The proposed building complies.

B.C. 8 Facade Articulation Zone

The maximum depth of the building is 18 metres however the optimal depth of a habitable floor is 12-15 metres to allow for articulation zones.

The FSR for each site has been calculated at 85% of the total building envelope, to allow for the articulation zone.

Balconies may extend beyond the building envelope by 600mm.

The proposed building varies in depth from a maximum 16 metres to a minimum of 11.5 metres,

B.C. 9 Access and Parking

Car Parking : Generally Underground

Pedestrian entry : From streets

Car Entries : Where possible off the new laneway.

In the proposed building all car parking is underground.

The main pedestrian access is off Gore Street.

Access to the upper car park is off the lane while access to the lower car park is off Bridge Street.

(3.2) The impact of that development on the environment, and any means that may be employed to protect the environment or to mitigate harm

The development will have no impact on the environment. All facilities will be connected to town services and therefore not adversely affect the environment.

(3.3) The effect of that development on the landscape or scenic quality of the locality.

The development is in keeping with Council's desired future outcome for the area.

The proposed development will have no effect on any wilderness area (within the meaning of the Wilderness Act, 1987) in the locality.

(3.4) The social effect and the economic effect of that development in the locality.

There is no social or economic impact caused by the development. It will provide employment during construction and additional medical services which the ageing population will need and demand.

(3.5) The character, design, siting, bulk, scale, shape, size, height, density, design or external appearance of that development

The scale of the development is in keeping with Council's desired future outcome for the area.

The design approach has adopted the principles of The Development Control Plan. The building's form has been designed to emphasise the horizontality of the building. In addition its visual scale has been reduced by the use of stripping on the buildings facades.

The building has been designed to relate to the streetscape and its entry is clearly defined.

The building is set back from the neighbouring residential property to the west to minimise its affect. Extensive planting is proposed in the deep soil zone to create a buffer between the two properties.

(3.6) The size and shape of the land to which the development application relates

The site is rectangular shaped, It is located on the south western side of the intersection of Gore and Bridge Street, with a frontage of 41.24 metres to Bridge, 50.705 metres to Gore Street.

The site falls approximately 3 metres from south to north.

(3.7) The risk to the development from flooding, tidal inundation, subsidence or bushfire

The property is not subject to flooding, tidal inundation, subsidence or slip.

The site is not bushfire prone.

(3.8) The relationship of the development to adjacent properties

The site is on a corner with adjacent properties to the south and west.

The property to the west has a group of single storey villa dwellings on it. A 20 metre wide deep soil area is proposed between the proposed building and the western boundary.

There is an existing single storey dwelling on the adjacent property to the south, however this property has a frontage to Gordon Street and will most likely be redeveloped for a commercial use.

The proposal is compatible with Council's desired future outcome for the area.

(3.9) Vehicular Access, Parking and Traffic

GROUND -	Cafe 52 sqm. @ 1 space/ 30 sqm.	= 1.7 spaces
LEVEL 1 -	2 Tenancies x 2 consulting rooms @ 3 spaces / consulting room	= 12 spaces
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TOTAL REQUIRED CARPARKING		= 65.7 spaces

A total of 66 car parking spaces are required to satisfy Council requirements, and 63 spaces are provided within the development, including 61 under the building and 2 parking spaces in the layover adjacent to the new laneway. There is a shortfall of three (3) on site car parking spaces.

(3.10) The amount of traffic likely to be generated by the development

There will be little change to the volumes and traffic flow patterns as a result of the proposed development.

(3.11) The availability of public transport services

Local bus services are available on Gordon Street.

(3.12) The availability and adequacy of utility services

Water and sewerage services are connected to the site

(3.13) Proposed Landscaping

Extensive landscaping is proposed around the perimeter of the building deep soil zones to soften it's appearance. Landscaping in the deepsoil zone to the west of the building will enhance privacy for the adjacent villas and provide them with an attractive outlook.

Medium trees are proposed in the deep soil zone to fit with, and enhance the pattern of deep soil zones and vegetated settings proposed in the DCP.

(3.14) The risk of soil erosion by the development

Soil will need to be removed from the site during the excavation of the basement car park. Silt retention and stabilisation facilities, in accordance with Council's guidelines will be provided as a "first step" in the construction phase to minimise any impact on the ecology of the site.