STOCKLAND DEVELOPMENT

SUPPLEMENTARY REPORT ON TRANSPORT ASPECTS OF PROPOSED EXTENSIONS TO STOCKLAND SHOPPING CENTRE, GLENDALE

APRIL 2015

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1. INTRODUCTION

1.1. Colston Budd Hunt & Kafes Pty Ltd has been commissioned by Stockland Development to prepare a supplementary report assessing the transport implications of the proposed extensions to the Stockland Shopping Centre at Glendale. The supplementary report has been prepared to address traffic matters raised by Council. In response to these matters, Stockland has prepared amended plans and this supplementary report is based on the amended plans. The traffic matters raised by Council generally related to design aspects of the proposed modifications to access, car park layout and servicing.

1.2. We prepared the traffic report that accompanied the DA for the proposed extensions (Report on Transport Aspects of Proposed Extensions to Stockland Shopping Centre Glendale, May 2014).

1.3. The shopping centre is located on the eastern side of Lake Road between Main Road and the Main Northern Railway, as shown in Figure 1. The existing centre provides some 46,560m^2 GLA, plus a cinema complex (8 screens, some 1,900 seats), with some 2,280 parking spaces. Access to the site is provided from Lake Road and Stockland Drive.

1.4. As per the previous scheme the proposed extensions will involve the construction of a "Boulevarde" precinct in the middle of the site, linking Kmart with Coles. The Boulevarde would comprise mainly restaurants, and would activate the central car parking area. In addition new specialty shops would be provided along the western (Coles/Woolworths) frontage of the site and some of majors/mini majors reconfigured. Total increase in GLA would be some 7,700m^2. To accommodate the proposed extensions the existing at grade central car park would be reconfigured. Access to and from the shopping centre would generally

be unchanged (new access to the rear service road from the extension of Stockland Drive).

1.5. In the future a number of transport improvements are proposed in the Glendale area. These include:

- construction of railway station on Main Northern Line at Glendale. The station would be located adjacent to the southeastern corner of the shopping centre;
- construction of a bus interchange adjacent to the proposed rail station;
- extension of Pennant Street (with bridge over the railway), from Cardiff through to Main Road at Glendale Drive; and
- extension of Stockland Drive through to the Pennant Street extension.

1.6. These changes to transport infrastructure will have effects on transport patterns in the area. Traffic flows on Stockland Drive, Lake Road and Main Road will change following the construction of the new roads. The construction of the station and bus interchange will improve public transport access to area.

1.7. The changes to the road network have been assessed in the Lake Macquarie Transport Interchange – Main Road Traffic Modelling Report (SMEC, August 2014) on behalf of Lake Macquarie City Council. The regional and local traffic modelling undertaken in this study took into account the changes to the road network and increased development in the area.

1.8. Our transport assessment is based on the above changes to the road network being completed and thus builds upon the findings of the Lake Macquarie Transport Interchange – Main Road Traffic Modelling Report.

1.9. The findings of our assessment for the proposed extensions are set down through the following chapters:-

- Chapter 2 - describing existing conditions; and
- Chapter 3 - assessing the implications of the proposed extensions.

2. EXISTING CONDITIONS

Site Location

2.1. Stockland Glendale Shopping Centre is located on the eastern side of Lake Road and to the south of Main Road, as shown on Figure 1. The shopping centre currently provides some 46,560m^2 GLA plus a cinema complex with eight screens (1,900 seats) and some 2,280 parking spaces provided at grade. A bus interchange is located within the site, south of the cinema complex. Access to the centre is via Stockland Drive and Lake Road.

2.2. Surrounding land use comprises a Bunnings store, showroom/retail development and Hunter sporting complex to the north, vacant land to the east, the main northern rail line to the south and residential development to the west.

Road Network

2.3. The road network in the vicinity of the site is made up of Main Road, Lake Road, Frederick Street and Stockland Drive. Main Road is the major east-west arterial road serving the area while Lake Road is the major north-south arterial road. In the vicinity of the site both roads generally provide two travel lanes in each direction, with additional turning lanes at major intersections. The intersection of the two roads (known as Cross Roads) is a major signalised intersection.

2.4. Frederick Street provides a connection between Lake Road and Main Road, west of Lake Road. The intersection of Frederick Street and Main Road is a signalised cross intersection. The intersection of Frederick Street with Lake Road is large multi lane roundabout. Stockland Drive is the fourth (eastern) approach at this roundabout.

2.5. Stockland Drive extends east from the Lake Road/Frederick Street roundabout. It has two traffic lanes in each direction. Access to Stockland Glendale Shopping Centre is provided off Stockland Drive at four locations. Two of these locations are multilane roundabouts. Stockland Drive also provides access to Bunnings and other developments north of the shopping centre and to the Hunter Sporting Complex. Stockland Drive has been designed to extend further to the east.

2.6. The shopping centre also has direct egress to Lake Road, south of the Lake Road/Frederick Street roundabout.

2.7. Primary circulation within the centre is provided via a number of internal roads that connect the car parking with the external roads. Service vehicle access is provided by a service road around the rear of the centre. A bus interchange is provided on site, between the cinema complex and the central car park. Pedestrian paths are provided throughout the car park connecting the various components of the site (cinemas, bus interchange, shops and car parking).

2.8. As noted in Chapter 1, a number of road network improvements are proposed in the Glendale area. These include:

- construction of railway station on Main Northern Line at Glendale. The station would be located adjacent to the south-eastern corner of the shopping centre;
- construction of a bus interchange adjacent to the proposed rail station;
- extension of Pennant Street (with bridge over the railway), from Cardiff through to Main Road at Glendale Drive; and
- extension of Stockland Drive through to the Pennant Street extension.

Public Transport

2.9. Glendale is a major centre within the public transport network and as such has regional links to other centres. A bus interchange is located in the central part of

the site, south of the cinema complex. Three bus operators service the centre. These are Newcastle Buses, Sugar Valley Coaches and Toronto Bus Services. Buses operating out of the interchange provide services between the major centres in the Newcastle areas, such Cardiff, Charlestown, Kotara and through to Newcastle CBD. Connecting services provide access to other areas within the Newcastle and Lake Macquarie local government areas.

2.10. Thus the site is well served by local and regional public transport (bus) services. As noted in Chapter 1, it is proposed to construct a new rail station at Glendale adjacent to the site. This would further improve accessibility to public transport services in the future.

Traffic Flows

2.11. 2020 weekday afternoon peak hour traffic flows (with the identified road network improvements in place) have been extracted from the Lake Macquarie Transport Interchange – Main Road Traffic Modelling Report at the following intersections:

- Glendale Road/Main Road; and
- Stockland Drive/Frederick Street/Lake Road.

2.12. The peak hour flows are set out in Figure 2 and summarised in Table 2.1. Included in Table 2.1 are existing (2013) traffic flows from the traffic study. The 2020 traffic flows include traffic from future development on the Stockland Glendale shopping centre site (Precinct 4.1). The Lake Macquarie Transport Interchange – Main Road Traffic Modelling Report assumed that the shopping centre traffic generation would increase by some 190 vehicles per hour (two way) in 2020. In 2031, the report assumed that the shopping centre traffic generation would increase by some 325 vehicles per hour (two way).

Table 2.1 : Weekday Afternoon Two-Way (Sum of both directions) Traffic Flows (vph)		
Road/Location	**Existing (2013)**	**Future (2020)**
Main Road		
- east of Glendale Road	3255	3550
- west of Glendale Road	2700	2515
Lake Road		
- north of Frederick Street	2025	2185
- south of Frederick Street	2410	2750
Frederick Street		
- west of Lake Road	1857	2415
Stockland Drive		
- east of Lake Road	1825	1930

2.13. The results set out in Table 2.1 reveal that in 2020:-

- traffic flows on Main Road will be some 2,500 to 3,550 vehicles per hour (two-way) in the weekday afternoon peak hour. The heaviest flows will occur east of Glendale Road;

- Lake Road will carry some 2,000 to 2,750 vehicles per hour (two-way) in the weekday afternoon peak hour;

- Frederick Street will carry some 2,415 vehicles per hour (two-way) in the weekday afternoon peak hour; and

- Stockland Drive will carry some 1,930 vehicles per hour (two-way) in the in the weekday afternoon peak hour.

<u>Intersection Operations</u>

2.14. The capacity of the road network is generally determined by the capacity of its intersections to cater for peak period traffic flows. The intersections shown on Figure 2 have been analysed using the SIDRA program (2020 base traffic flows

with road network improvements identified in the Lake Macquarie Transport Interchange – Main Road Traffic Modelling Report). This includes an additional 190 vehicles generated by the shopping centre. SIDRA is designed to analyse signal controlled intersections, roundabouts and priority intersections.

2.15. The program produces a number of measures of intersection operations. The most useful measure provided is average delay per vehicle expressed in seconds per vehicle.

2.16. Based on average delay per vehicle, SIDRA estimates the following levels of service (LOS):-

- For Traffic Signals, the average delay per vehicle in seconds is calculated as Delay/(All Vehicles), for roundabouts the average delay per vehicle in seconds is selected for the movement with the highest average delay per vehicle, equivalent to the following LOS:-

0 to 14	=	"A"	Good
15 to 28	=	"B"	Good with minimal delays and spare capacity
29 to 42	=	"C"	Satisfactory with spare capacity
43 to 56	=	"D"	Satisfactory but operating near capacity
57 to 70	=	"E"	At capacity and incidents will cause excessive delays. Roundabouts require other control mode.
>70	=	"F"	Unsatisfactory and requires additional capacity

- For Give Way and Stop Signs, the average delay per vehicle in seconds is selected from the movement with the highest average delay per vehicle, equivalent to following LOS:-

0 to 14	=	"A"	Good

15 to 28	=	"B"	Acceptable delays and spare capacity
29 to 42	=	"C"	Satisfactory but accident study required
43 to 56	=	"D"	Near capacity and accident study required
57 to 70	=	"E"	At capacity and requires other control mode
>70	=	"F"	Unsatisfactory and requires other control mode

2.17. It should be noted that for roundabouts, give way and stop signs, in some circumstances, simply examining the highest individual average delay can be misleading. The size of the movement with the highest average delay per vehicle should also be taken into account. Thus, for example, an intersection where all movements are operating at a level of service A, except one which is at level of service E, may not necessarily define the intersection level of service as E if that movement is very small. That is, longer delays to a small number of vehicles may not justify upgrading an intersection unless a safety issue was also involved.

2.18. The SIDRA analysis found that in 2020:

- The intersection of Main Road and Glendale Road would operate with average delays of less than 40 seconds per vehicle in both peak periods. This represents level of service C, a satisfactory level of intersection; and

- The Lake Road/Frederick Street/Stockland Drive roundabout would operate with average delays of less than 25 seconds per vehicle in both peak periods. This represents level of service B, a satisfactory level of intersection operation.

Parking

2.19. Surveys of existing parking demands at the shopping centre were undertaken during the Thursday afternoon and Saturday lunchtime periods. The surveys found that the peak parking demand was some 1,145 spaces on Thursday

afternoon and some 1,515 spaces on Saturday. This is a peak parking demand of 1 space per 30m^2 GLA.

3. IMPLICATIONS OF THE PROPOSED EXTENSIONS

3.1. The proposed extensions will involve the construction of a "Boulevarde" precinct in the middle of the site, linking Kmart with Coles. The Boulevarde would comprise mainly restaurants, and would activate the central car parking area. In addition new specialty shops would be provided along the western (Coles/Woolworths) frontage of the site and some of majors/mini majors reconfigured. Total increase in GLA would be some 7,700m^2. To accommodate the proposed extensions the existing at grade central car park would be reconfigured. Parking provision would be increased to some 2,275 spaces. Access to and from the shopping centre would generally be unchanged (new access to the rear service road from the extension of Stockland Drive).

3.2. The implications of the proposed extensions are assessed through the following sections:-

- public transport;
- parking provision;
- access and circulation
- traffic effects;
- response to traffic matters; and
- summary.

<u>Public Transport</u>

3.3. As previously discussed, the site has access to existing bus services with a bus interchange located within the shopping centre. These bus services provide regional and local connections. Thus the site has good accessibility by public

transport (bus) services in the area. This is further reinforced by the proposed rail station and interchange at Glendale.

3.4. The proposed development would increase retail and employment densities within close proximity to existing and future public transport services operating through the area. The proposal would therefore strengthen the existing demand for these services, supporting their efficient and viable operation. This is consistent with government policy of:

(a) improving accessibility to employment and services by walking, cycling, and public transport;
(b) improving the choice of transport and reducing dependence solely on cars for travel purposes;
(c) moderating growth in the demand for travel and the distances travelled, especially by car; and
(d) supporting the efficient and viable operation of public transport services.

Parking Provision

3.5. Lake Macquarie City Council's DCP 2014 has a rate for shops of 1 space per 40m^2 GFA for shops greater than 5,000m^2 in size with any variation supported by surveys of a similar use. With the proposed extensions, the retail floor area of the shopping centre will be some 54,360m^2 GLA. For shopping centres, RMS guidelines suggest that GLA is typically some 75% of GFA. On this basis the expanded shopping centre would comprise some 72,480m^2 GFA retail floor space.

3.6. DCP 2014 does not have a rate for cinemas. However, studies undertaken by this company for cinemas in shopping centres found a cinema parking demand of 1 space per 25 seats at the time of peak retail parking demand (Saturday midday).

3.7. It should be noted that part of the proposed extensions are restaurants and a food court (some 2,000m^2 GLA), which would generate peak parking demand outside of peak retail trading periods or be used by people already in the centre. For the purposes of determining parking requirements, parking demand for the restaurant/food court has been assumed to be 50% of the retail rate (at times of peak retail parking demand).

3.8. Applying these rates to the expanded shopping centre with some 72,480m^2 GFA retail floor space (including an additional 2,670m^2 GFA restaurants/cafes) and 1,900 cinema seats would require a minimum of some 1,855 parking spaces (1,745 retail spaces, 34 restaurant/café spaces and 76 cinema spaces). This is accommodated by the proposed provision of some 2,275 spaces.

3.9. By way of comparison parking requirements for the expanded shopping centre have also been estimated based on surveys of existing parking demand and RMS Guidelines. As noted in Chapter 2, the existing shopping centre was found to have a peak parking demand of 1 space per 30m^2 GLA. Applying the surveyed rate plus the rate of 1 space per 25 seats for cinemas and 1 space per 60m^2 for new restaurants/cafes, the expanded shopping centre would require some 1,855 parking spaces (1,745 retail spaces, 34 restaurant/café spaces and 76 cinema spaces). This is accommodated by the proposed provision of some 2,275 spaces.

3.10. RMS guidelines set out a parking requirement of 4.1 spaces per 100m^2 of GLA for shopping centres over 30,000m^2 in size. Applying the RMS rate plus the rate of 1 space per 25 seats for cinemas, and 2 spaces per 100m^2 for the restaurants/cafes, the expanded shopping centre would require some 2,262 parking spaces (2,146 retail spaces, 41 restaurant/café spaces and 76 cinema spaces).

3.11. Thus the proposed parking provision of some 2,275 spaces satisfies the requirements of DCP 2014, RMS Guidelines and surveys of existing parking

demand, and is considered appropriate. Disabled parking, motorcycle (13 spaces) and bicycle parking (13 spaces) will be provided in accordance with Council requirements. End trip facilities (showers, change rooms and lockers) will be provided.

Access and Circulation

3.12. The proposed extensions involve reconfiguration of the central car park to accommodate the new 'Boulevarde' precinct and extensions to the shopping centre. The existing central car park area would be separated into southern (adjacent to Target/Kmart) and northern (adjacent to Woolworths and the cinemas) components with two connections between the two new car park areas. Access to/from the bus interchange would be unchanged. The new internal road running along the northern side of "The Boulevarde" would have limited parking along it and provide for short term set down/pick up along its southern side. Access to and from the shopping centre would generally be unchanged (new access to the rear service road from the extension of Stockland Drive).

3.13. The modified car parking areas will be designed to comply with the Australian Standard for Off Street Parking AS2890.1-2004 with respect to driveways, ramp grades, aisle widths and car park space dimensions.

3.14. Servicing of the new buildings will occur from dedicated loading docks located on the southern side of the buildings. The loading areas have been designed to cater for a medium rigid truck, the largest vehicle anticipated to service the uses within the new buildings. Trucks would enter and depart the loading docks from the adjacent circulation aisle in a forward direction. All service areas will be designed to comply with the Australian Standard for Off Street Parking for Commercial Vehicles AS2890.2-2002.

3.15. The new retail development will be linked to the existing shopping centre by a network of pedestrian paths and crossings on the internal roads.

3.16. The amended plans have addressed a number of traffic matters raised by Council including:

- the relocation of the drop off zone from the access road between The Boulevarde Precinct and the existing shopping centre to two locations along the western side of the Woolworths car park. It is proposed that the access road between the two components of the centre will be a low speed environment (10 km/h sign posted) and the road raised to be flush with the footpath and constructed in a textured pavement. Pedestrian movements across the access road will be managed with marked (zebra) pedestrian crossings connecting the existing centre with the footpaths either side of the Casual Dining Precinct. Landscaping and fencing will direct pedestrians to these crossings. These measures will ensure a safe environment for all road users and reinforce the low speed environment and deter through traffic and are shown on the attached site plan;

- no median break will be provided on Stockland Drive between Lake Road and the roundabout providing access to Bunnings/shopping centre (northwest entry). The existing access to the Harris Farm car park will remain left in/left out;

- the intersection of the access road (coming off the Stockland Drive extension) and the new car park located east of Kmart will be configured to deter customer cars accessing the car park located south of Kmart. Measures to deter customers cars include constructing the service road connection as a driveway crossing, configuring the intersection to direct traffic into the new eastern car park and no entry signs (service vehicles excepted) as shown on the attached site plan;

- angled parking along the frontage of the specialty shops (within the Woolworths car park) has been replaced with parallel parking;

- the existing pedestrian crossing located on the approach to the northwest entry (across 4 traffic lanes) has been removed;

- the connection of the north east entry (between the cinemas and Kmart) with The Boulevarde (running along the northern side of the Casual Dining Precinct) has been reconfigured. A roundabout has been provided at the intersection of the northeast access road and The Boulevarde (replacing the previous channelisation treatment) and the pedestrian crossing on the access road relocated to the south (to provide increased separation between the crossing and the roundabout and align with the pedestrian path along the southern side of the Casual Dining Precinct). SIDRA modelling of this layout has found that new roundabout will operate satisfactorily with sufficient separation between Stockland Drive, the roundabout and the pedestrian crossing to accommodate queuing of vehicles;

- the bus only lane from the northeast access road will be linemarked and signposted as a bus only lane (similar to bus only lane treatments on public roads) as shown on the attached site plan;

- the two new loading docks located on the southern side of the Casual Dining Precinct have been reconfigured to parallel bays to the allow service vehicles (up to 8.8 metre long MRV's) to enter and depart the docks in a forward direction. Access to these docks would be limited to 8.8 metre long MRV's. Access to these docks is through the Target car park as shown in the truck turning paths attached to this report. Splitter islands within the car park have been removed.

3.17. Subject to satisfactory detailed design, the internal circulation, parking layout and provision for service vehicles is considered appropriate.

Traffic Effects

3.18. Surveys undertaken by CBHK found that the existing shopping centre generates some 2,500 vehicles per hour (two way) in the weekday afternoon peak hour. This is a generation rate of one vehicle per 18.6m^2 GLA. Applying this rate the additional 7,700m^2 GLA would generate some 410 vehicles per hour (two way) during the weekday afternoon peak hour. As noted in Chapter 2, the Lake Macquarie Transport Interchange – Main Road Traffic Modelling Report assumed that in 2020, additional development on the shopping centre site would generate some 190 additional vehicles (two way) increasing to some 325 additional vehicles per hour (two way) by 2031.

3.19. Thus in 2020, the proposed expansion of the shopping centre would generate some 220 vehicles per hour (two way) compared to that assessed in the Lake Macquarie Transport Interchange – Main Road Traffic Modelling Report. This additional traffic has been assigned to the surrounding road network taking into account the proposed road improvements identified in the Lake Macquarie Transport Interchange – Main Road Traffic Modelling Report.

3.20. The resulting additional traffic flows are set out on Figure 2 and summarised in Table 3.1.

Table 3.1 : Weekday Two-Way (Sum of both directions) Traffic Flows (vph)			
Road/Location	**Existing (2013)**	**Future (2020)**	**Future + Dev (2020)**
Main Road			
- east of Glendale Road	3255	3550	+50
- west of Glendale Road	2700	2515	+0
Lake Road			
- north of Frederick Street	2025	2185	+30
- south of Frederick Street	2410	2750	+75
Frederick Street			
- west of Lake Road	1857	2415	+65
Stockland Drive			
- east of Lake Road	1825	1930	+170

3.21. Table 3.1 reveals that the proposed extensions would result in relatively modest increases in traffic flows on the surrounding road network. Increases on Main Road, Lake Road and Frederick Street would be some 30 to 75 vehicles per hour (two way) in the weekday afternoon peak hour. On Stockland Drive (including the extension through to Pennant Street) the increases would higher at some 60 to 170 vehicles per hour (two way).

3.22. The intersections analysed in Chapter 2 using the SIDRA program have been re-analysed with the additional traffic in place. The results of this analyses found that:

- The intersection of Main Road and Glendale Road would operate with average delays of less than 40 seconds per vehicle in both peak periods. This represents level of service C, a satisfactory level of intersection; and

- The Lake Road/Frederick Street/Stockland Drive roundabout would operate with average delays of less than 30 seconds per vehicle in both peak periods. This represents level of service B/C, a satisfactory level of intersection operation.

3.23. Thus in 2020 and with the proposed road improvements identified in the Lake Macquarie Transport Interchange – Main Road Traffic Modelling Report in place, the increases in traffic generated by the proposed extensions could be satisfactorily accommodated by the surrounding road network.

Response to Traffic Matters

3.24. The majority of traffic matters raised by Council have been addressed through the amended plans as set out in Paragraph 3.15. Additional traffic matters raised by Council and our response is set out in Table 3.2.

Table 3.2:	**Responses to Traffic Matters Raised by Council**	
Item	Description	Response
1 ii)	The site will be significantly redeveloped in the future. The key internal access roads should be designed with wide road reserves consistent for business / commercial roads under LMDCP 2014. This is to ensure that the roads can be dedicated as public roads in the future and can cater for buses.	We understand that Stockland is not proposing to dedicate internal roads as public roads. The existing and modified internal roads are appropriate for providing access to/from the shopping centre.
2.3	Motorbike parking rates under the DCP require one motorbike parking space for each 20 car parking spaces. Calculating against the proposed additional floor area a minimum of 9 additional motorbike parking spaces is required. Vehicle Parking Provision (Sec. 2.6.6 of DCP1)	An additional 13 motorcycle spaces will be provided.

2.4	Bicycle parking rates under the DCP require one bike parking space for each 20 car parking spaces for employees and one bike parking space for each 20 car parking spaces. Details are required as to the development satisfying this requirement.	An additional 13 bicycle spaces + end of trip facilities for staff (showers change rooms and lockers) will be provided
2.5 i)	The changes to the car parking area include provision of additional parking spaces around the periphery of the site. These spaces would be best used for employee parking only. It is recommended that the parking areas at the south of the site be designated for the employee parking. Consideration of this requirement however is subject to the revised Crime Risk Assessment (see item 6).	Existing spaces around the periphery of the site (accessed via the service road) are currently used by staff. This will continue to be the case after the proposed extensions.

3.25. In summary the traffic matters raised by Council have been addressed.

Summary

3.26. In summary, the key findings for the proposed extensions to Stockland Glendale Shopping Centre are:

i) The proposed expansion has good access to existing and future public transport services;

ii) The proposed parking provision is appropriate;

iii) Access, circulation and servicing arrangements are appropriate; and

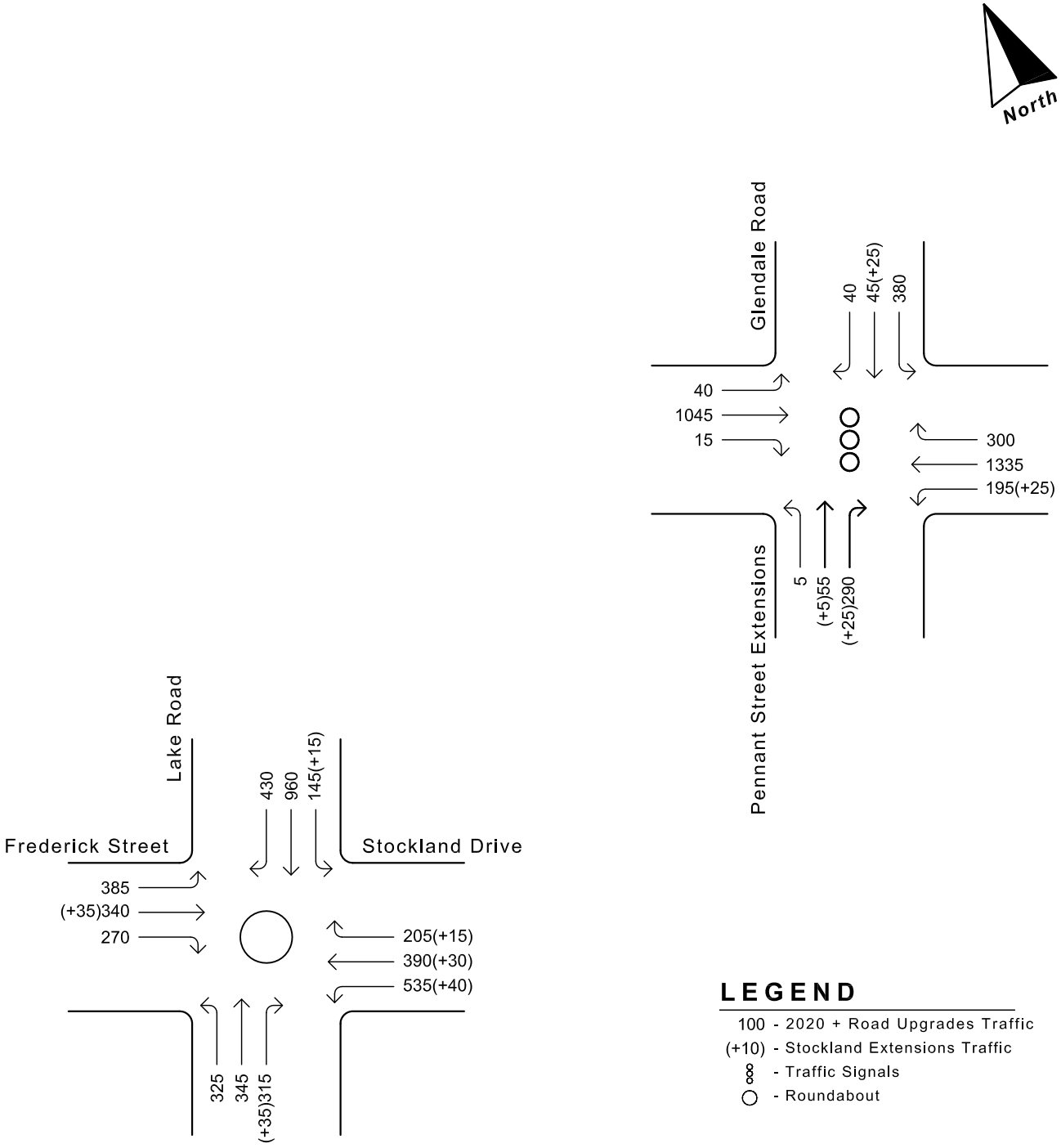
iv) The road network with the proposed road improvements identified in the Lake Macquarie Transport Interchange – Main Road Traffic Modelling Report has capacity to cater for the additional traffic flows resulting from the proposed extensions.

Location Plan

Colston Budd Hunt & Kafes Pty Ltd

DRAWN BY CBHK Pty Ltd_mr Ref: 9154 02 APRIL 2014

Figure 1



2020 + Road Upgrades + Stockland Extensions
Thursday afternoon Traffic Flows

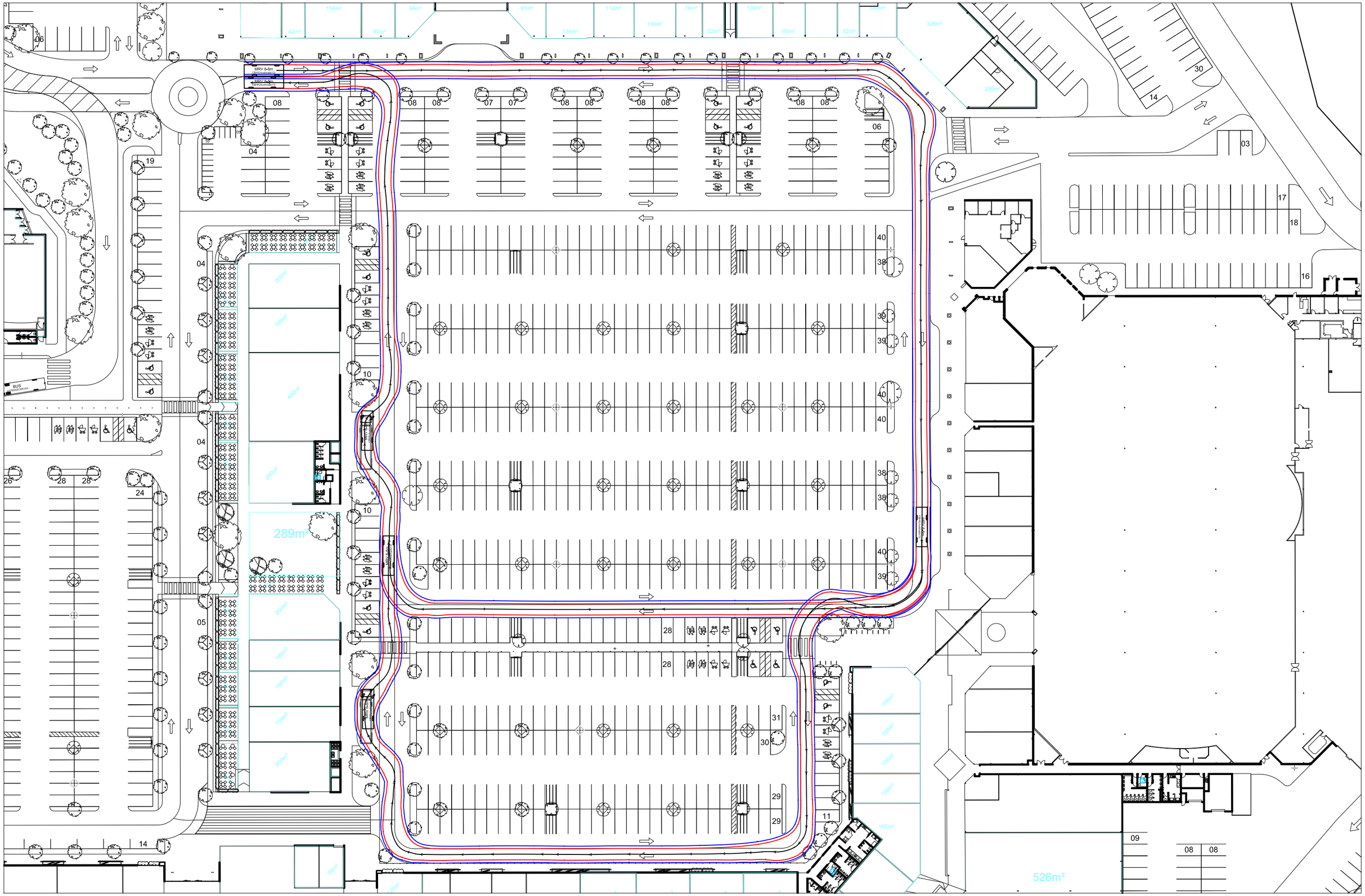
Colston Budd Hunt & Kafes Pty Ltd

DRAWN BY CBHK Pty Ltd_mr Ref: 9154 02 APRIL 2014

Figure 2

ANNEXURE A

TRUCK TURNING PATHS



NOTE:
SKETCH PLAN ONLY. PROPERTY BOUNDARIES, UTILITIES, KERBLINES & DIMENSIONS ARE SUBJECT TO SURVEY AND FINAL DESIGN. TRAFFIC MEASURES PROPOSED IN THIS PLAN ARE CONCEPT ONLY AND ARE SUBJECT TO FINAL DESIGN BY CIVIL ENGINEERS.

Swept Path of Vehicle Body
Swept Path of Clearance to Vehicle Body

8.8m MEDIUM RIGID VEHICLE SWEPT PATHS

DRAWN BY CBHK Pty Ltd_mr Ref: 9154 17 MARCH 2015

12

ATTACHMENT B

SITE PLAN

Legend

- MAJOR
- MINI-MAJOR
- SPECIALTY
- RESTAURANT
- FOOD SPECIALTY
- AMENITIES / STORAGE / SERVICES
- NEW MALL
- EXISTING UNAFFECTED DEVELOPMENT
- NEW LANDSCAPING

NOTE: ALL RETAINING WALLS ADJACENT TO RAILWAY LINE ARE LESS THEN 2M IN HEIGHT.

Areas

EXISTING GLAR (INCL. CINEMA)	50,803 m²
INCREASE	
MAJOR	1,226 m²
MINI-MAJOR	515 m²
CASUAL DINING	1,860 m²
SPECIALTY (INC. KIOSKS)	5,900 m²
LOSS	
MINI-MAJOR	- 1,226 m²
SPECIALTY ((INC. KIOSKS)	- 595 m²
TOTAL PROPOSED	**7,680 m²**
TOTAL GLAR	**58,483 m²**

Car Parking

MOTORBIKE SPACES	43
BICYCLE SPACES	10+88 = 98
DISABILITY PARKING SPACES	14+33 = 47
ELDERLY CAR SPACES	30
PARENTS WITH PRAMS SPACES	30
DROP-OFF ZONES	5
TOTAL	**2,277 CARS**
PROPOSED CARPARK RATIO	**3.89 CARS/100 m²**

STOCKLAND DRIVE
ROAD EXTENSION
NEW ROAD
SUB STATION
EXCAVATED PARKING
SUB
NO ENTRY SIGNS (STAFF AND SERVICE VEHICLES EXCEPTED)
ONE WAY FOR TRUCKS ONLY
KMART NORTHERN FACADE TO BE TREATED
02 DA4001 /4003
KMART
NORTH KMART PARKING
03 DA4001 /4004
RECONFIGURED DUE TO NEW FUTURE ROAD (LOSS OF 52 SPACES)
FUN LAND +RL 10.00
+FL 10.00
05 DA4001 /4003
DROP-OFF
+RL 10.00
RECONFIGURED EXISTING GRADE CAR PARKING
BUSES ONLY LANE
CINEMA
CINEMA
BUS STOP
CASUAL DINING 1000m²
+RL 8.70
BOULEVARD
COVERED WALKWAY
LOADING
PLAY GROUND SHADE SAILS ABOVE
CASUAL DINING 860m²
INCREASED TARGET CAR PARKING
COLONNADE FACADE TO BE TREATED
06 DA4001 /4004
DROP-OFF
TARGET
+FL 9.50
SUB
08 DA4006
+RL 8.00
EXISTING WOOLWORTHS CAR PARKING
DETENTION BASIN
LOW POINT +RL 4.00
01 DA4001 /4002
DROP-OFF
RAISED PAVEMENT
07 DA4001 /4005
SPECIALTY 1725m²
SPECIALTY 1265m²
FRUIT & VEG 515m²
SPECIALTY 1380m²
SPECIALTY 560m²
+RL 7.00
+RL 7.50
SEATING
+FL 7.00
+FL 6.50
DELETED SPEC 412m²
SPECIALTY (RECONFIGURED) 445m²
DELETED 100m²
+FL 7.50
RL 7.50 +
+RL 8.00
RL 8.00 +
04 DA4001 /4005
INCREASED PAD-SITE CAR PARKING
6 BICYCLES
13 MOTORBIKES
COLONNADE FACADE TO BE TREATED
ALDI
WOOLWORTHS
02 DA4001 /4003
COLES (EXPANDED) 1226m²
03 DA4001 /4004
STAFF CAR PARKING
09 DA4006
ELE
SUB

Stockland

Commercial Design Group

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REVISION:

A	DA SUBMISSION	15.04.14
B	ADDITIONAL SECTION REFERENCES	30.05.14
C	INCLUDES AREA CALCULATIONS	03.09.14
D	ALTERATIONS TO PLAN AND RESPONSE TO RFI'S	01.04.15

STATUS: DA Submission
AUTHOR: IO,ML
DATE: 01.04.15
SCALE: 1:1000 @ A1
0m 10m 20m 40m 80m

PROJECT: **Stockland GLENDALE**
Lake Road, Glendale NSW

TITLE: **Proposed Ground Floor Plan**

PROJECT NUMBER: 07-07-08-GD

DRAWING NUMBER: **DA3002-D**