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26 October 2024
P2723 Landas Caravan Park Lakes Way Forster

Lands Advisory Services Pty Ltd PO Box 2317, Dangar NSW 2309

Attn: Brett Phillips

Dear Brett,

Traffic Impact Assessment

Proposed Caravan Park, Blueys Estate, Charlotte Bay, NSW.

Regarding the proposed Caravan Park development and associated Clubhouse on The Lakes Way, Charlotte Bay to the south of Forster, we have now completed our site work, collected traffic data and reviewed the plans for the proposed caravan park development. The traffic impact assessment in Table 1 below has been completed in accordance with the requirements of the Guide to Traffic Generating Developments and Austroads Guidelines.

The report has also taken into consideration the planning requirements outlined within the MidCoast Council's Great Lakes Development Control Plan 2013 and the Local Government (Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2021 (**the Regulation**).

The site location is shown below:



Figure 1 – Site location



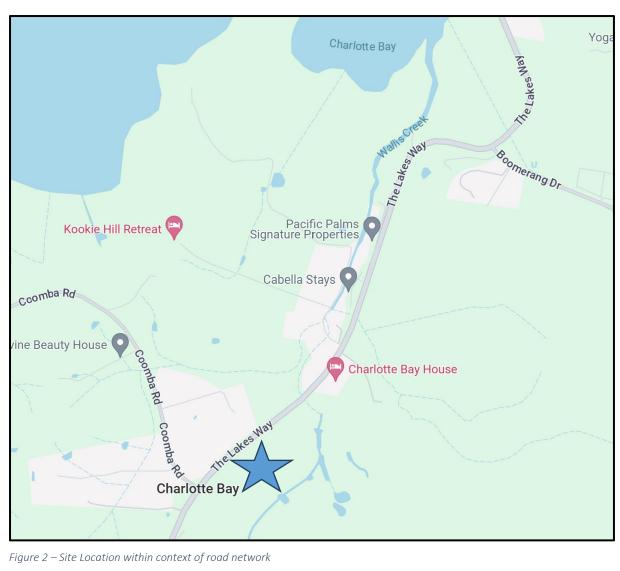


Figure 2 – Site Location within context of road network

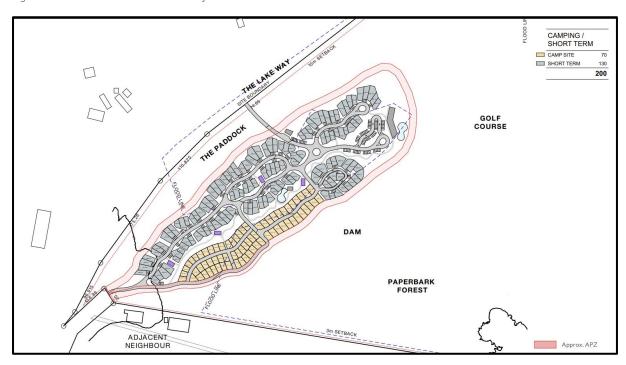


Figure 3 – Site Plan

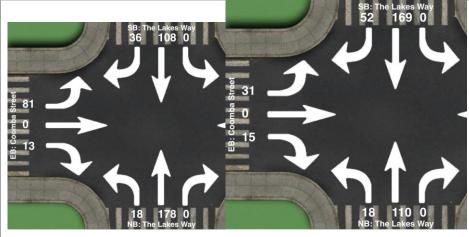




Table 1- Traffic Impact Assessment Summary

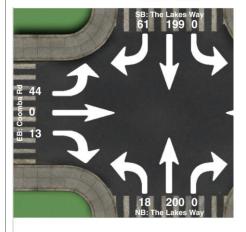
Item	Comment			
Existing Situation				
2.1.1 Site Location and Access	The site is located off The Lakes Way, to the south of Forster within the locality of Charlotte Bay and has road frontage to The Lakes Way. All vehicle access is proposed onto The Lakes Way only. The site is located on the eastern side of The Lakes Way within a predominantly rural area, with some residential and commercial development to the north. The centre of Forster is approximately 20 kilometres to the north of the subject site.			
2.2.1 Road Hierarchy	The main road in the locality is The Lakes Way which provides a single lane of travel in each direction and provides an important road link in the locality being the only connection between Forster-Tuncurry to the north and numerous coastal towns and villages to the south through to the Pacific Highway at Bulahdelah. The road, in the locality of the site, provides a width of 7 metres with grass verges and a narrow shoulder outside of the edge lines. There are no footpaths or cycle lanes in this location, reflective of the rural setting and the minimal demands for these facilities. The speed limit in the vicinity of the site is 100 km/hr. The Lakes Way forms part of the regional road network with the Mid North Coast Council being the consent authority for any new works or development on or adjacent to the road. As part of the regional road network, the application may need to be reviewed and concurrence provided by Transport for NSW however any works, unless signals, would not be the subject of a WAD. The Lakes Way carries reasonably low traffic flows, with limited through traffic movements as regional through traffic uses the Pacific Highway to the west of the locality. It carries a mixture of local traffic as well as tourist traffic during the summer months associated with holiday destinations in Forster and the towns along the length of The Lakes Way in this location.			
2.2.2 Roadworks	None noted in vicinity of site. It is understood that there are no road works in the general locality except for Council maintenance work as required.			
2.2.3 Traffic Management Works	None currently noted. Given the reasonably low traffic flows along The Lakes Way in this location, it can be seen that there is no capacity issue and the existing alignment of the road and the general intersection controls in this location have adequate capacity to carry the current traffic flows. Council has identified a number of road improvements to the north of this area with major road works associated with The Southern Parkway to connect to The Lakes Way via a roundabout, to the north of Sweet Pea Road. The on-going extension to The Southern Parkway and the construction of this roundabout has been identified for funding under past S94 contribution works. South of this location there are no road works identified for upgrading the road network.			
2.2.4 Pedestrian and Cycling Facilities	There are no pedestrian or cyclists' facilities provided in the immediate vicinity of the subject site. Further to the north a footway cycle is provided within Forster but this does not extend beyond the urban area of Forster. Whilst Council have identified this path to be extended south it will not connect to the subject site Cyclists are able to use The Lakes Way, with the road width and generally low traffic flows allowing for a safe environment for experienced cyclists. Given the lack of development in the vicinity of the subject site there is very limited demand for pedestrian activities and cyclists are able to ride on The Lakes Way as required.			
2.2.5 Public Transport	The site is serviced by a local bus route (Forster Buslines Route 307) along The Lakes Way connecting the locality of the site to Stockland Forster. Connections are available from here to other centres as well as more regional services to Gloucester. The route provides for inbound AM service to Forster and the			

Item	Comment
	return trip in the afternoon. These services are provided Monday to Friday only with a varied timetable in the school holidays. There are no railway services in this location.
2.3 Traffic Flows	
2.3.1 Daily Traffic Flows	Traffic surveys have been undertaken by Seca Solution on Wednesday 13 th September 2023 at the intersection of The Lakes Way and Coomba Road between the hours of 4.00 to 5.30 PM and on Thursday 14 th September 2023 between 7.30-9.00AM as well as Friday PM counts (2.00-3.30PM) to coincide with tourist demands. These periods were determined based on the proposed development and the general peak demands on the road network in this location. During the morning peak period, the hourly flow at this location on The Lakes Way was noted at 259 vehicles northbound and 144 vehicles southbound, giving a two-way flow of 403 vehicles. The corresponding flows in the afternoon peak hour were 141 and 221 giving a two-way flow of 362 vehicles per hour mid-week and 244 and 260 giving two-way flows of 504 vehicles per hour between 2.30-3.30PM on the Friday. Based on peak hour flows typically representing 10% of the daily flows, the daily 2-way flow along The Lakes Way in this location could be in the order of 4,000 - 4,500 vehicles.



Intersection Peak Hour

08:00 - 09:00



Intersection Peak Hour

16:00 - 17:00

Intersection Peak Hour

14:30 - 15:30

Figure 4 - Friday afternoon peak period

Item	Comment			
2.3.2 Daily Traffic Flow Distribution	Daily traffic movements are reasonably balanced in both directions along The Lakes Way. The morning peak hour showed a bias in traffic movements northbound towards Forster-Tuncurry (65%) which would be reflective of commuter trips, as well as demands for local attractions in Forster-Tuncurry e.g. shops and tourist attractions. The reverse traffic pattern occurred in the afternoon peak period, 61% being southbound however the Friday afternoon demands were more even reflecting additional tourist demands northbound in the afternoon.			
2.3.3 Vehicle Speeds	No speed surveys were completed as part of the study work. Observations on site indicate that drivers typically travel at the posted speed limit or slightly above due to the reasonably good road alignment and the low traffic flows.			
2.3.4 Existing Site Flows	The site currently generates minimal traffic.			
2.3.5 Heavy Vehicle Flows	The traffic surveys undertaken show that there were low heavy vehicle flows (5% in the AM and 2% in the PM peaks) reflective of the lack of through truck movements in the area. These demands included school buses, garbage trucks and other general service vehicles.			
2.3.6 Current Road Network Operation	Observations on site during the peak periods show that the road network in the vicinity of the subject site operates very well, with no delays or congestion for existing road users.			
2.4 Traffic Safety and Accident History	Accident data provided by Transport for NSW indicates this is not an area of high road safety concern. In the past five years (2018-2022) there has been two accidents recorded near to the site at the intersection of The Lakes Way and Coomba Road. One was a non-casualty being off road on a bend with speed identified as a factor while the other was 2 cars turning right which resulted in two injuries. This T intersection is reasonably well laid out, with good visibility for drivers entering and exiting the side road. However, while the posted speed limit is 100 km/h in this location, it would appear that drivers travel above this speed in this location which can create a safety concern at this intersection. A BAR treatment with a marked dividing line allows drivers turning right into Coomba Road to do so with minimal impact on the through traffic movements, with southbound through traffic able to pass a stationary vehicle at this location.			
2.5 Parking Supply and Demand				
2.5.1 On-street Parking Provision	With the lack of verges and only narrow sealed shoulders in the locality of the site, there is generally no on-street parking provision available along the length of The Lakes Way adjacent to the subject site. In an emergency drivers are able to pull onto the verges to both sides of the road if required.			
2.5.3 Parking Demand and Utilisation	No on-street parking observed on The Lakes Way. With no development adjacent to the road there is no parking demand.			
2.5.4 Set down or pick up areas	There are no dedicated set down or pick up areas in the vicinity of the site.			
2.6 Public Transport				
2.6.1 Rail Station Locations	No railway lines service this area.			
2.6.2 Bus Stops and Associated Facilities	There is a bus stop to both sides of The Lakes Way located at the intersection of The Lakes Way and Coomba Road. On the eastern side of the road adjacent to the bus stop there is a shelter with a seat for passengers.			
2.6.3 Pedestrians	There are no footpaths in the immediate vicinity of the subject site. Pedestrians are able to walk along the side of the road if necessary and cyclists are able to ride along the road pavement as required.			
2.7 Other Proposed Developments	There are no significant developments noted. There is ongoing residential development to the north of the locality in Forster.			



Item	Comment			
3.1 The Development				
3.1.1 Nature of Development	The proposal allows for the development of a 200 lot caravan park with 70 camp site and 130 short term sites. Designated parking areas will be provided on site with camp site parking available on each pitch. In addition a clubhouse shall be provided to service the demands of the site and the adjacent golf course. This clubhouse will also be open to the public. There is a single access point connecting to The Lakes Way which then allows for an internal road network to the north and south providing direct access to individual lots.			
3.1.2 Access and Circulation	In accordance with the Regulation Division 3 Subdivision 3:			
Requirements	(1) A road that forms an entrance to or exit from a caravan park or camping ground must be at least 7 metres wide(2) Access roads must be 6m two way or 4m one-way			
	All vehicles shall be required to enter and exit the site in a forward direction.			
3.2 Access	Primary access to the site will be provided via a proposed new T intersection on The Lakes Way. Whilst an access has been approved for the golf course on the site to the north of Coomba Road, no access has been constructed yet for this golf course. It is proposed to construct a new access that will allow for access to the golf course as well as the caravan park.			
	This shall be provided in accordance with the Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings Regulation 2021 and shall be designed and constructed in accordance with Council requirements.			
	The access requirements have been reviewed against Austroads Guideline warrants for turn treatments (Sec 4.4.2 below) for the critical PM peak. This allows for the caravan park and some clubhouse demands however the golf course demands do not coincide with this period being primarily early morning. Through traffic movements (504 both directions) plus the left turn demand into the site (27) provides the Major Road Traffic Volumes whilst the right turn demand into the site are 45 vehicles per hour in the PM peak. Given the volumes of through demands a Type CHR intersection is required for the right turn into the site. This site access will be designed in accordance with Austroads Guidelines and Council requirements.			
3.2.1 Driveway Location	The access is located approximately 250 (to be confirmed) metres north of the intersection of The Lakes Way and Coomba Road.			
3.2.2 Sight Distances	Posted speed limit of 100 km/h on The Lakes Way in this location currently. Visibility requirements for the access has been determined based upon the requirements of Austroads Guidelines. For the posted speed limit, the sight distance requirements is 248 metres for drivers exiting the subject site. The visibility has been checked on site and over 270 metres visibility is available in both directions.			
3.2.3 Service Vehicle Access	All service vehicles can enter and exit the site in a forward direction via the new access point which caters for all vehicles. Once the site is established servicing requirements will be minimal being the collection of waste and servicing for the golf clubhouse. Waste collection would be a typical 10.8 metre-long rigid truck and the internal roads will accommodate the movements of this size of vehicle. Other occasional servicing for maintenance etc. would typically only require small vans e.g. Toyota HiAce.			





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3.2.4 Queuing at entrance to site	No vehicle queues expected at site entry / exit point. Relatively low overall traffic demands associated with the future development and on the adjacent road network. There is no restriction for entering vehicles with a queuing space to be provided within the site boundary prior to any boom gate control.				
3.2.5 Comparison with existing site access	Existing access to the site is via a simple gated driveway which will be removed as part of this development.				
3.2.6 Access to Public Transport	Bus stops are located to the south of the site access on The Lakes Way by Coomba Road.				
3.3 Circulation					
3.3.1 Pattern of circulation	All vehicles will be able to enter and exit the site in a forward direction, with the internal roads and site layout designed in accordance with the Regulation.				
3.3.2 Road width	All roads will be designed in accordance with the requirements of the Regulation. Division 3 Subdivision 3:				
	(1) A road that forms an entrance to or exit from a caravan park or camping ground must be at least 7 metres wide				
3.3.3 Internal Bus Movements	Access roads must be 6m two way or 4m one-way				
	No internal bus movements required for the development.				
3.3.4 Service Area Layout	A suitable waste management area shall be provided on-site along with a loadir bay adjacent to the clubhouse.				
3.4 Parking					
3.4.1 Proposed Supply	Parking shall be provided on each camp site along with additional parking through the site catering for both community (140) and visitor (9) demands. Clubhouse parking (60) shall also be provided.				
3.4.2 Authority Parking	The Regulation nominates:				
	A caravan park or camping ground must contain at least one resident parking space for each dwelling site or camp site either on-site or off-site. An off-site space must be marked (for example, by means of line marking, marker pegs or similar means) to identify the particular dwelling site or camp site to which it relates.				
	An off-site parking space for a dwelling site or camp site must be situated in the location specified in the approval for the caravan park or camping ground.				
	A caravan park must contain no fewer visitor parking spaces than the following:				
	long-term sites - one visitor parking space for each 10 sites				
	short-term sites – one visitor parking for each 20 sites				
	camping sites – one visitor parking space for 40 camp sites				
	A caravan park that contains more than 100 sites must contain at least one visitor space for people with disabilities for each 100 site or fraction of 100 sites.				
	The Great Lakes DCP makes no provision for parking for caravan parks.				
	The parking rate outlined in the Regulation is therefore considered the appropriate parking rate to apply.				
	Clubhouse parking has been based on the restaurant parking rate 15 spaces per 100m2 GFA, or 1 space per 3 seats, whichever is greater given neither the DCP				



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	nor the Guide to Traffic Generating Developments allows for a clubhouse associated with a golf course.			
3.4.3 Parking Layout	On-site formal spaces minimum, dimensions of: 5.4 metres by 2.5 metres, in the case of angle parking, and 6.1 metres by 2.5 metres in any other case			
	Clubhouse parking to be designed in accordance with AS2890.1.			
3.4.4 Parking Demand	In addition to parking for each tent site, allowing for up to 130 short term sites, the minimum number of visitor parking space to be provided is 7.			
	9 visitor spaces are provided through the site along with 140 allocated parking spaces for community parking.			
	Two spaces are required for people with disabilities in accordance with AS2890.6.			
	Given the size of the site and design of the caravan park all parking demands can be contained on site.			
	The parking will also allow for the existing approved car park for the golf course and 60 spaces are proposed for the clubhouse.			
	The clubhouse parking has been based on the restaurant parking rate 15 spaces per 100m2 GFA, or 1 space per 3 seats, whichever is greater given neither the DCP nor the Guide to Traffic Generating Developments allows for a clubhouse associated with a golf course. The clubhouse is however considered ancillary to both the course and the caravan park with parking to allow for external demands only.			
3.4.5 Service Vehicle Parking	No dedicated service vehicle parking required on site. A suitable waste management area shall be provided in accordance wire Council's requirements along with a loading bay for the clubhouse.			
3.4.6 Pedestrian and Bicycle Facilities	Pedestrians and cyclists can walk on the internal driveways as required, to connect with these with these driveways operating at slow speed and allow for shared zone operation.			
Traffic Assessment				
4.1 Traffic Generation	The Guide to Traffic Generating Developments does not provide any rates for traffic movements associated with caravan parks. Motels rates could be considered for use of the sites for casual short term accommodation with a rate of 0.4 vph in the afternoon peak and 3 trips per day. This is consistent with the rate for retirement / seniors living developments, noting the morning peak does not coincide with the peak on the local road network, and is therefore considered appropriate for the site.			
	Allowing for the 200 lots the site could generate:			
	 80 trips in the PM peak and 600 trips two way (300 inbound/300 outbound) per day. 			
	For the clubhouse, public arrivals would typically coincide with dining demands with restaurant peak demands not coinciding with the local PM road peak.			
	Allowing for a GFA of 400m² and 50% external demands the clubhouse could generate 10 trips in the PM peak (50% of 5 per 100m²) and			





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	 120 additional trips per day (60 inbound/60 outbound). 			
4.1.1 Daily and Seasonal Factors	Some seasonal variation in traffic movements associated with the nature of the area as a holiday destination. Holiday use would be popular during the summer months and school holidays with lower demands outside of these periods.			
4.1.2 Pedestrian Movements	Given the location of the site pedestrian demands external to the site are expected to be very low. There was no pedestrian movements noted during the site work.			
	Internal pedestrian movements can be catered for along the internal roadways which operate as shared zones.			
4.2 Traffic Distribution and Assignments	Traffic to and from the site will be distributed along The Lakes Way only. The vast majority of the traffic movements are likely to approach from the south (Pacific Motorway) as noted in the Friday surveys however some demands would be from the north via Forster. Daytime tourist demands would be to the north given access to various beaches, recreational opportunities and the facilities and shops in this direction.			
4.2.1 Origin / destinations assignment	All traffic will access the site via the new site access on The Lakes Way. For the purposes of this assessment it has been assumed that for the caravan park: • 80% of PM trips will be inbound with the balance (20%) outbound. • 67% of the inbound trips will be from the south 20% from the north via The Lakes Way. • Outbound trips will be split 20% south and 80% north For the clubhouse: • 80% inbound in the PM peak, 80% from the north			

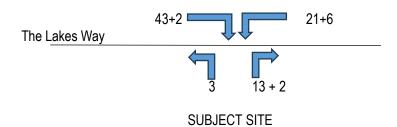
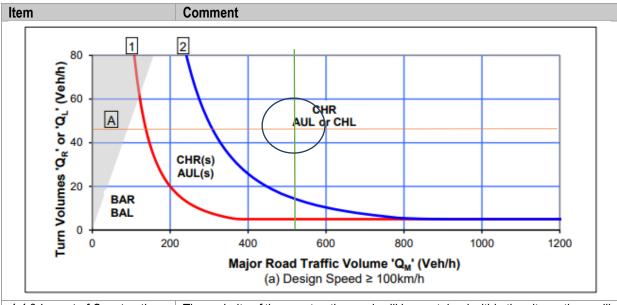


Figure 4 PM peak development traffic (Caravan Park + External Clubhouse)

Tigure 4 Five peak development traffic (editavan Fark Fexternal clabilouse)		
4.3 Impact on Road Safety	The major impact of the development will be at the site access point on The Lakes Way.	
	The proposal allows for the provision of a T intersection to control access to the site, with the development of a sheltered right turn lane to maximise road safety. This sheltered right turn lane will be designed in accordance with the requirements set out in Austroads Design Guides. The design of this intersection will require consent from Council as the road authority. As a regional road no Works Authorisation Deed (WAD) with Transport for NSW is required.	
	Given that this intersection will be designed and constructed in accordance with the Austroads Guidelines it is considered that this access will provide a safe environment for all road users and will not provide a safety risk for road users.	
	Upgrades through additional linemarking at the intersection of Coombs Road and the Lakes Way has improved safety in this location. Whilst the proposed	

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	development will increase through demands they will be minimal and will not see a significantly increase for turns into this road.
	Overall, it is considered that the site access and local road network will continue to operate in a safe and appropriate manner, due to the combination of the access controls and the low overall traffic flows in the locality.
4.4 Impact of Generated Traffic	
4.4.1 Impact on Daily Traffic Flows	The development will have an acceptable impact upon the daily traffic flows in the locality. The existing daily flows are in the order of 4000-4500 vehicles per day along The Lakes Way in this location. With the proposed development, flows could potentially increase by 346 movements two-way to the north of the site to give daily flows in the order of 4,850 vehicles per day. Daily traffic flows south of the site could increase by 374 vehicles per day to a total of 4,880 vehicles per day. The Guide to Traffic Generating Developments does not provide any guidance for daily traffic flows but does provide guidance for impacts associated with peak hour flows. For rural roads for the level of service of B the capacity per direction is given as 590 vehicles per hour, based on a level road and 5% heavy vehicles. With the current peak direction flow being 244 and 260 in the PM peak, with the additional 45 and 27 vph the total flow per direction would remain below 300 vph, indicating the level of service would remain at LoS B. Level of service B is in the zone of stable flows and drivers still have reasonable freedom to select their desired speed and to manoeuvre within the traffic stream, although the general level of comfort and convenience is little less than that for level of service A. The flows outside of the Friday peak hours are much lower and will be at a level of service of A with less than 200 vehicles per hour per direction and is therefore
4.4.2 Peak Hour Impacts on	considered to be very good, with minimal delays. The critical intersection is the site access and The Lakes Way.
Intersections	Whilst a concept design for an intersection has been approved for the golf course, it is considered that this design would require review. A review of the Austroads standard indicates that the site access must provide a sheltered right turn lane for traffic entering off The Lakes Way with the potential for a left turn deceleration lane given the 100km/hr speed zone.
	The peak hour flows associated with the proposed development (Figure 4) are low and can be accommodated within the proposed access.
	Based upon site observations of the operation of the road network and the traffic flows in this location, it is considered that the additional traffic flows associated with the development can be accommodated within the proposed access and will have a minimal impact upon the other intersections in this location.





4.4.3 Impact of Construction Traffic	The majority of the construction work will be contained within the site so there will be a minimal impact upon the external road network. There will be a requirement for construction machinery to access the site and traffic associated with workers. A Traffic Management Plan will be required for work on site and to provide access controls. This will be completed as part of the design process by the contractor on site. For the construction works on The Lakes Way, a Traffic Guidance Scheme will be needed at this location to ensure road user and construction workforce safety is maintained. An important element of the construction phase for the project will be managing the parking demands for the construction workers. However, the site area is large and will be able to accommodate these parking needs with no impacts upon the external road network. All construction staff will be directed to park on site and not on The Lakes Way. The construction traffic numbers will have a minimal impact upon the overall road network.	
4.4.4 Other Developments	There is no current development work occurring within the immediate vicinity of the site.	
4.5 Public Transport		
4.5.1 Options for improving services	No option to improve services.	
4.5.2 Pedestrian Access to Bus Stops	There are no pedestrian facilities within the vicinity of the site. Given the infrequency of bus services there are no connections to the bus stop required.	
4.6 Recommended Works		
4.6.1 Improvements to Access and Circulation	Ensure internal road are designed and constructed in consultation with Council to meet the Regulations.	
4.6.2 Improvements to External Road Network	None required other than those directly related to the provision of the new access point on The Lakes Way. The proposed development does not impact upon the existing controls at the intersection of The Lakes Way and Coombs Road.	
4.6.3 Improvements to Pedestrian Facilities	None required	
4.6.4 Effect of Recommended Works on Adjacent Developments	No impact on adjacent developments.	



Item	Comment
4.6.5 Effect of Recommended	Minimal existing services. This project is unlikely to generate sufficient demand
Works on Public Transport	for changes to these.
Services	
4.6.6 Provision of LATM	None required
Measures	
4.6.7 Funding	All internal site work will be funded through the development. The site access
_	connection to The Lakes Way shall be funded by the development.



Photo 1-Typical cross section of The Lakes Way in the vicinity of the subject site





Photo 2 – View to right for driver exiting the subject site onto The Lakes Way



Photo 3 – View to left for driver exiiting the subject site onto The Lakes Way. Note Coombs Road is visible in the distance





Photo 4 – View over intersection of The Lakes Way and Coombs Road adjacent to the bus stop.



 ${\it Photo}~5-{\it View}~to~{\it left}~for~driver~exiitng~{\it Coombs}~{\it Road}~onto~{\it The}~{\it Lakes}~{\it Way}$





Photo 6 – View to right for driver exiting Coombs Road onto The Lakes Way



Conclusion

From the site work and the review of the development proposal against the requirements of the Guide to Traffic Generating Developments published by Transport for NSW, it is considered that the proposed Caravan Park and Golf Clubhouse should be approved on traffic and access grounds. The additional traffic movements generated by the proposal will have a minimal and acceptable impact upon the local road network and the proposed site access can operate with minimal delay or congestion. Visibility has been checked on site and complies with Australian Standards. The intersection of Coombs Road has been reviewed and the impact of any additional flows generated by the development considered acceptable.

The site access on The Lakes Way shall require a dedicated right turn lane based on Austroads Guidelines with the potential for a left turn deceleration lane given the 100km/h speed zone and shall be designed and constructed in accordance with the road authority requirements. As The Lakes Way is a regional road, advice from Transport for NSW is that the access would not require a Works Authorisation Deed (WAD).

Future parking for the proposal will be able to be accommodated on site in accordance with the Local Government (Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2021 and Council requirements and the internal road network will be designed and constructed in accordance with these design guidelines.

Should you require any further details please do not hesitate to contact the undersigned,

Yours sincerely,

Cathy Thomas

Director

Version	Date	Description	Prepared by	Reviewed and Approved for Issue
Ver01	12/8/24	Draft	C. Thomas	S. Morgan
Ver02	21/10/24	Final	C.Thomas	S.Morgan

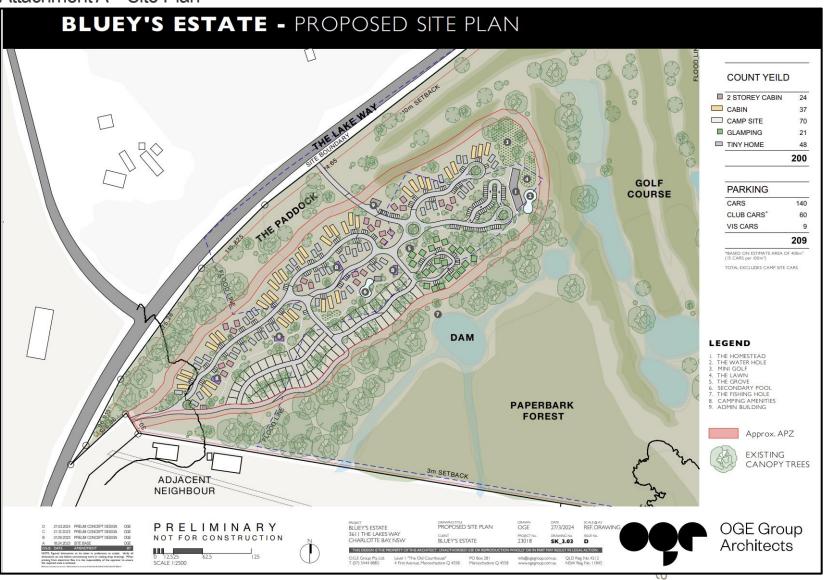
Attached: A – Site Plan

B – Bus Services



SECA solution >>>>

Attachment A – Site Plan







Attachment B - Bus Services

