TRAFFIC IMPACT ASSESSMENT

SENIORS LIVING DEVELOPMENT
LOT 8 DP 855275 & PART LOT 42 DP 846326
6 WILTON DRIVE & LOT 42 MOUNT VINCENT ROAD, EAST MAITLAND

PREPARED FOR: GHT PTY LTD

JULY 2016

16/097

TRAFFIC IMPACT ASSESSMENT
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LOT 8 DP 855275 & PART LOT 42 DP 846326
MOUNT VINCENT ROAD, EAST MAITLAND

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QUALITY ASSURANCE

This document has been prepared, checked and released in accordance with the Quality Control Standards established by Intersect Traffic Pty Ltd.

Issue	Date	Description	By
A	01/07/16	Draft	JG
B	01/07/16	Edit	JG
C	04/07/16	Final Proof	JG
D	04/07/16	Approved	JG

This document has been authorised by

Date 4th July 2016

EXECUTIVE SUMMARY

Intersect Traffic Pty Ltd (Intersect Traffic) has been engaged by ACM Landmark Pty Ltd on behalf of GHT Pty Ltd to prepare a Traffic Impact Assessment for a Seniors Living Development on Lot 8 DP 855275, 6 Wilton Drive, East Maitland and part of Lot 42 DP 846326, Mount Vincent Road, East Maitland which is likely to provide up to 134 residential dwellings for seniors. The site adjoins the Rathluba Ridge Residential Estate and has access to Wilton Drive through Lot 8 DP 855275.

Vehicular access to the development is proposed from Wilton Drive 540 metres west of Mount Vincent Road. The proposed development plan is shown in ***Attachment A***.

This report is required to support an application to the NSW Department of Planning and Environment for a site compatibility certificate for the proposal. The report has concluded the following:

- Existing traffic volumes on the local road network are within the technical and environmental capacity standards determined by Austroads and the NSW Roads and Maritime Services (RMS).
- The local road network is currently operating satisfactorily with good levels of service and little if any delay for motorists and has capacity to cater for additional traffic associated with new development in the area.
- The proposed development is likely to generate an additional 54 vehicle trips per hour during the AM peak and PM peak traffic periods.

- The local road network currently has sufficient spare capacity to cater for the development traffic generated by this development without adversely impacting on either current levels of service experienced by motorists on the road or the residential amenity of existing residents.
- Sidra modelling of the Mount Vincent Road / Wilton Drive intersection has shown that it currently operates satisfactorily during both the AM and PM peak periods and would continue to do so post development and with 10 years traffic growth to 2026. Average delays, LoS and 95 % back of queue lengths all remain at acceptable levels based on the RMS assessment criteria.
- The site access at Wilton Drive will operate with uninterrupted flow conditions and as such can be constructed as a normal urban property access.
- The proposed site access is safe and suitable as it would comply with Maitland City Council and Australian Standard AS2890.1-2004 Parking facilities – Part 1 - Off-street car parking.
- The proposed development provides sufficient and suitable on-site car parking to meet the requirements of both Australian Standard AS2890.1-2004 Parking facilities – Off-street car parking and State Environmental Planning Policy (SEPP) (Housing for Seniors and People with a Disability) 2004.
- The site can be suitably serviced for waste collection via a private contractor utilising a side loading MRV (8.8 metre) collection vehicle weekly. There is sufficient room on site for this vehicle to enter the site, manoeuvre through the site and exit the site in a forward direction.
- The proposed development will generate pedestrian and cycle traffic therefore a nexus would exist to provide additional facilities. Generally these additional facilities would be considered at development application stage and conditioned by the consent authority but it is considered the provision of a shared pedestrian / cycle path along the Wilton Drive frontage of the site would provide some benefit to future residents of the development by linking to existing pathways.
- The proposed development may generate additional public transport usage and under State Environmental Planning Policy (SEPP) (Housing for Seniors and People with a Disability) 2004 the site residents must have access to a bus with a minimum capacity of 10 persons. To provide a satisfactory public transport service to the development would only require the provision of a bus stop (with shelter and seating) on Wilton Drive at the access to the site. This would require some liaison with Maitland City Council, Department of Transport and the bus company at Construction Certificate stage. Alternatively the proponent will operate a separate suitably sized bus to operate a shuttle service to major service areas in the Maitland local government area.

Having carried out this traffic assessment it is recommended that the seniors living development on Lot 8 DP 846326 and part of Lot 42 DP 846326, Mount Vincent Road, East Maitland providing 134 residential dwellings can be supported from a traffic impact perspective. The proposed seniors living development will not adversely impact on the local and state road network and complies with all relevant Maitland City Council, Austroads State Environmental Planning Policy (SEPP) (Housing for Seniors and People with a Disability) 2004 and NSW Roads and Maritime Services (RMS) traffic and parking related requirements.

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1.0 INTRODUCTION

Intersect Traffic Pty Ltd (Intersect Traffic) has been engaged by ACM Landmark Pty Ltd on behalf of GHT Pty Ltd to prepare a Traffic Impact Assessment for a Seniors Living Development on Lot 8 DP 855275, 6 Wilton Drive, East Maitland and part of Lot 42 DP 846326, Mount Vincent Road, East Maitland which is likely to provide up to 134 residential dwellings for seniors. The site adjoins the Rathluba Ridge Residential Estate and has access to Wilton Drive through Lot 8 DP 855275.

Vehicular access to the development is proposed from Wilton Drive 540 metres west of Mount Vincent Road. The proposed development plan is shown in ***Attachment A***. The subject site is currently vacant rural land.

This report is required to support an application to the NSW Department of Planning and Environment for a site compatibility certificate for the proposal within part Lot 42 and allow the Department to assess the proposal in regard to its impact on the local and state road network.

This report presents the findings of the traffic assessment and includes the following;

1. An outline of the existing situation in the vicinity of the site.
2. An assessment of the traffic impacts of the proposed development including the predicted traffic generation and its impact on existing road and intersection capacities.
3. Determines any triggers for the provision of additional infrastructure.
4. Reviews parking, public transport, pedestrian and cycle way requirements for the proposed development, including assessment against Council's DCP and Australian Standard requirements.
5. Presentation of conclusions and recommendations.

2.0 SITE LOCATION

The subject site is located on the western side of Mount Vincent Road to the south of Wilton Drive, East Maitland. The developable portion of the property has road frontage to Wilton Drive with an existing vehicular access to the site through Lot 8 DP 855275. ***Figure 1*** below shows the site location from a local context.

The site is titled as Lot 8 DP 855275, 6 Wilton Drive and Lot 42 DP 846326 – Mount Vincent Road, East Maitland and has an area of 26.73 ha.

Pursuant to the Maitland LEP (2011) the site is currently zoned RU2 – Rural Landscape with the site compatibility certificate seeking approval of the seniors living development. Lot 8 DP 855275 while forming part of the proposal and fronting Wilton Drive is zoned R1 – General Residential and the seniors living development on this part of the site is a permissible use. ***Photograph 1*** shows the existing conditions at the site.

Photograph 1 – Development site looking south from Wilton Drive

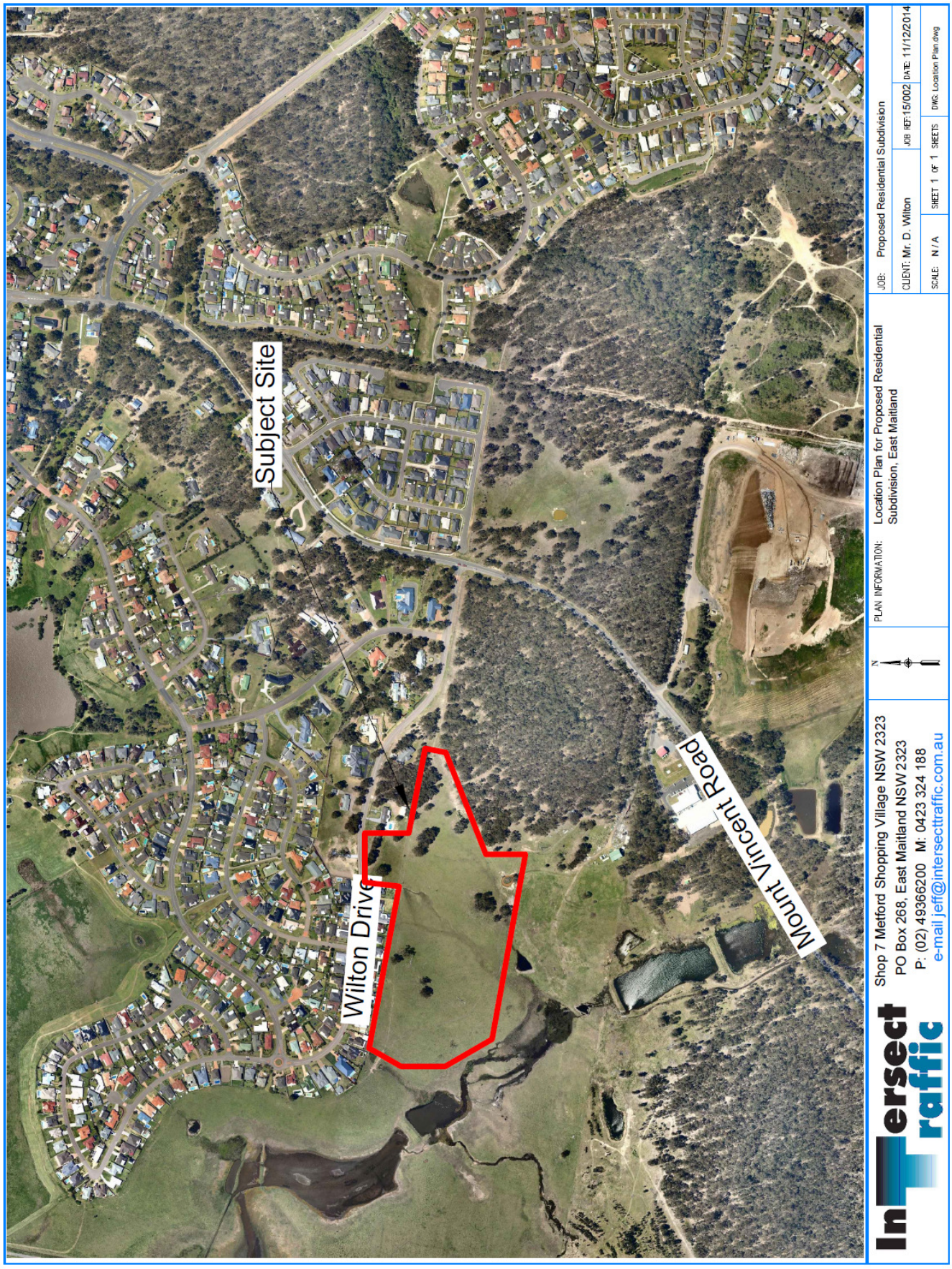


Figure 1 – Site Location

3.0 EXISTING ROAD NETWORK

3.1 Mount Vincent Road

Mount Vincent Road is a regional road under the care and control of Maitland City Council. Under a functional road hierarchy it performs the function of a major collector / distributor road providing connection to the sub-arterial road network at East Maitland (New England Highway) and Buchanan (John Renshaw Drive and Hunter Expressway). In the vicinity of the site it is a two lane two way sealed rural road with lane widths of 3.5 metres and wide sealed shoulders. An 80 km/h speed limit applies to this section of road though this reduces to 50 km/h near Wilton Drive and at the time of inspection Mount Vincent Road was observed to be in good condition. ***Photograph 2*** shows Mount Vincent Road in the vicinity of Wilton Drive.

Photograph 2 – Mount Vincent Road in the vicinity of the site

3.2 Wilton Drive

Wilton Drive in the vicinity of the site is an urban local access road under the care and control of Maitland City Council. Under a functional road hierarchy it would function as a collector road with its primary function being to collect and distribute traffic to the higher order road (Mount Vincent Road) while also providing vehicular access to adjoining properties. In the vicinity of the site it is a two lane two way sealed road with a carriageway width of 11 metres. A 50 km/h speed limit applies to this section of road and at the time of inspection Wilton Drive was observed to be in good condition ***(Photograph 3)***.

Photograph 3 – Wilton Drive in the vicinity of the site.

4.0 ROAD NETWORK IMPROVEMENTS

There are no known major road upgrades in the vicinity of the site that will improve the capacity of the local road network in the near future. The recent opening of the Hunter Expressway has resulted in some redistribution of traffic in the area.

Maitland City Council is currently undertaking preliminary planning works for a southern Maitland by-pass route which is likely to pass just to the south of the site. However it is not expected that this proposal will affect the subject land.

With further development in the area a roundabout at the Mount Vincent Road / Wilton Drive intersection has been proposed but would be subject to a nexus being established for its construction. This has been considered in this assessment.

5.0 TRAFFIC VOLUMES

Intersect Traffic carried out manual traffic counts at the Mount Vincent Road / Wilton Drive intersection on Friday 12th December 2014. The counts were obtained between 8.00 am and 9.00 am and 4:30 pm to 5:30 pm i.e. expected AM & PM peak traffic periods to allow SIDRA modelling of this intersection to be undertaken. It also provides current mid-block peak hour traffic volumes on Mount Vincent Road and Wilton Drive. The resulting 2014 AM and PM peak hour mid-block traffic volumes were found to be;

- 2014 - Mount Vincent Road – 591 vtph (AM) and 782 vtph (PM); and
- 2014 - Wilton Drive – 82 vtph (AM) and 94 vtph (PM).

Using a growth rate of 1.5 % per annum, the 2016 and 2026 AM and PM peak hour traffic volumes on Mount Vincent Road and Wilton Drive are;

- 2016 - Mount Vincent Road – 609 vtph (AM) and 806 vtph (PM);
- 2016 - Wilton Drive – 85 vtph (AM) and 97 vtph (PM).
- 2026 – Mount Vincent Road – 707 vtph (AM) and 935 vtph (PM); and
- 2026 – Wilton Drive – 98 vtph (AM) and 116 vtph (PM).

The tally sheets for the manual traffic counts carried out by Intersect Traffic are provided within ***Attachment B***.

6.0 ROAD CAPACITY

The capacity of urban and rural roads is generally determined by the capacity of intersections. However, Table 4.5 of the RMS's *Guide to Traffic Generating Developments* provides some guidance on mid-block capacities for rural roads and likely levels of service. These tables are reproduced below.

Table 4.5
peak hour flow on two-lane rural roads (veh/hr)
(Design speed of 100km/hr)

Terrain	Level of Service	Percent of Heavy Vehicles			
		0	5	10	15
Level	B	630	590	560	530
	C	1030	970	920	870
	D	1630	1550	1480	1410
	E	2630	2500	2390	2290
Rolling	B	500	420	360	310
	C	920	760	650	570
	D	1370	1140	970	700
	E	2420	2000	1720	1510
Mountainous	B	340	230	180	150
	C	600	410	320	260
	D	1050	680	500	400
	E	2160	1400	1040	820

The data for Table 4.5 assumes the following criteria:

- *terrain level* with 20% no overtaking.
- *rolling* with 40% no overtaking.
- *mountainous* with 60% no overtaking.
- 3.7 m traffic lane width with side clearances of at least 2m.
- 60/40 directional split of traffic.

Assuming that the desirable worst level of service (LoS) on Mount Vincent Road is LoS C and that Mount Vincent Road represents level terrain with approximately 5 % heavy vehicles then the two-way mid-block capacity of Mount Vincent Road would be in the order of 1,500 vtph. With predicted peak 2026 volumes of only 935 vtph Mount Vincent Road in its current configuration would still be operating well within its technical mid-block capacity in 2026.

As Wilton Drive is an urban collector road containing residential dwellings the environmental road capacity thresholds provided within Table 4.6 of the RMS' *Guide to Traffic Generating Developments* (reproduced below) are of more relevance when considering the local road network's capacity to cater for additional traffic.

Table 4.6
Environmental capacity performance standards on residential streets

Road class	Road type	Maximum Speed (km/hr)	Maximum peak hour volume (veh/hr)
Local	Access way	25	100
	Street	40	200 environmental goal
			300 maximum
Collector	Street	50	300 environmental goal
			500 maximum

Note: Maximum speed relates to the appropriate design maximum speeds in new residential developments. In existing areas maximum speed relates to 85th percentile speed.

As Wilton Drive performs the function of a collector road within Rathluba Ridge Estate its environmental capacity is considered to be 500 vtph maximum.

Current and future predicted traffic volumes on Wilton Drive (up to 116 vtph in 2026) are well below 500 vtph indicating there is significant spare capacity within Wilton Drive to cater for additional development.

7.0 ALTERNATE TRANSPORT MODES

Currently Hunter Valley Buses operates the public transport services (bus) in the East Maitland area. The nearest service route to the site is Route 187 East Maitland to Metford which operates Monday to Saturday (see ***Figure 2***). This service runs past the site along Wilton Drive to Woodrow Way however does not stop in the vicinity of the site with the nearest bus stops located on Wilton Drive some 700 metres north west of the site. This service could still be used by future residents of the seniors living development with additional bus stops provided in consultation with the bus company and the Department of Transport.

This service connects to major retail facilities at Greenhills where a transport interchange allows connection to other bus services to Maitland, Cessnock, Rutherford and Singleton including connection to local railway stations on the Hunter line.

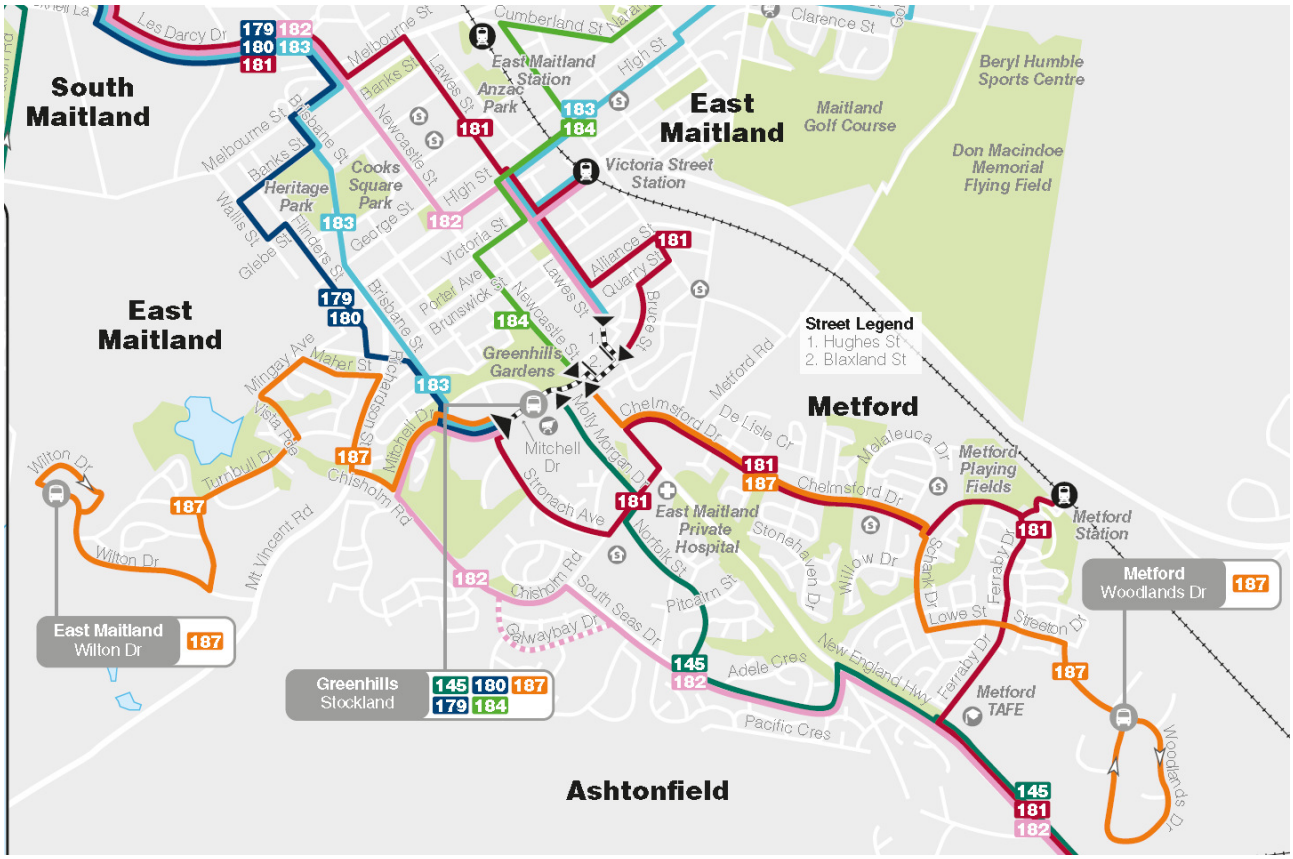


Figure 2 – Existing Bus Route.

Currently there is nothing in the way of formalised cycle or pedestrian pathways in the vicinity of the site on Wilton Drive through to Mount Vincent Road. A shared pedestrian cycle path exists on the eastern side of Mount Vincent Road which runs north connecting to Worcester Drive near the Chisholm Road roundabout (see ***Photograph 4***). This provides some benefit to pedestrians and cyclists heading to the local areas of Greenhills and Ashtonfield. In the vicinity of the site and south along Mount Vincent Road cyclists and pedestrians would either have to use the existing grassed verges or share the travel lanes / sealed shoulders on the local road network.

Photograph 4 – Pedestrian / cycle path Mount Vincent Road north of Wilton Drive.

8.0 DEVELOPMENT PROPOSAL

The development proposal involves the construction of a seniors living development on Lot 8 DP 855275, 6 Wilton Drive, East Maitland and part of Lot 42 DP 846326 Mount Vincent Road, East Maitland. Specifically the development will include;

- 134 residential units within 98 buildings in six (6) distinct precincts. A total of 89 three bedroom units with double garages and 45 two bedroom units with single garages are to be provided.
- Internal roadways and driveways;
- A community facility building;
- 223 resident car parks (garages) and 89 on-site visitor car parks;
- Storage area for caravans, boats, campervans etc.; and
- Associated site drainage structures and landscaping.

The development plan is provided within ***Attachment A*** and shows the external road connection to Wilton Drive approximately 540 metres west of Mount Vincent Road. It would be expected that the majority of traffic generated by the development would utilise the Wilton Drive / Mount Vincent Road intersection in their trip making as part of their origin / destination travel routes for all purposes.

All new internal roads, connections and other roadside infrastructure would be constructed to the requirements of Maitland City Council as per their Manual of Engineering Standards (2014).

9.0 TRAFFIC GENERATION

The RMS' *Guide to Traffic Generating Development's* provides specific advice on the traffic generation potential of various land uses. However the RMS has released a Technical Direction (TDT 2013/4) releasing the results of updated traffic surveys and as a result amended land use traffic generation rates.

In regard to housing for seniors the following amended advice is provided within the Technical Direction.

Rates.

Weekday daily vehicle trips = 2.1 per dwelling
Weekday peak hour vehicle trips = 0.4 per dwelling
(Note that morning site peak hour does not generally coincide with the network peak hour)

Therefore the additional traffic generated by the proposed development during the weekday peak period can be calculated as follows (rounded up);

Daily vehicle trips = 134 dwellings x 2.1 trips per dwelling
= 282 vtpd.

Weekday AM & PM peak hour = 134 dwellings x 0.4 trips per dwelling
= 54 vtph.

Noting that the AM peak does not generally coincide with the network peak hour only the PM peak hour has been assessed in this report as it is considered to be the critical peak for the type of development proposed. This report has also assumed that the community building within the development is for the sole use of the residents therefore is ancillary to the development and does not generate additional traffic to and from the site.

10.0 TRIP DISTRIBUTION

Before carrying out any traffic assessment the additional peak hour traffic generated by the development needs to be distributed through the adjoining road network. This involves making a number of assumptions as to distribution patterns to and from the development. In distributing the peak hour traffic through the adjacent road network the following assumptions have been made for this site.

- 10 % of trips will head west at Wilton Drive towards Turnbull Drive and 90 % of trips will head east to Mount Vincent Road
- In the PM peak traffic will be distributed as 30 % outbound and 70 % inbound.
- In the PM peak period 75 % of traffic at the Wilton Drive / Mount Vincent Road intersection will have an origin / destination to the north towards East Maitland while 25 % of traffic will have an origin / destination to the south towards Buchanan.
- These assumptions will result in the trip distributions shown in ***Figure 3*** for the relevant traffic movements.

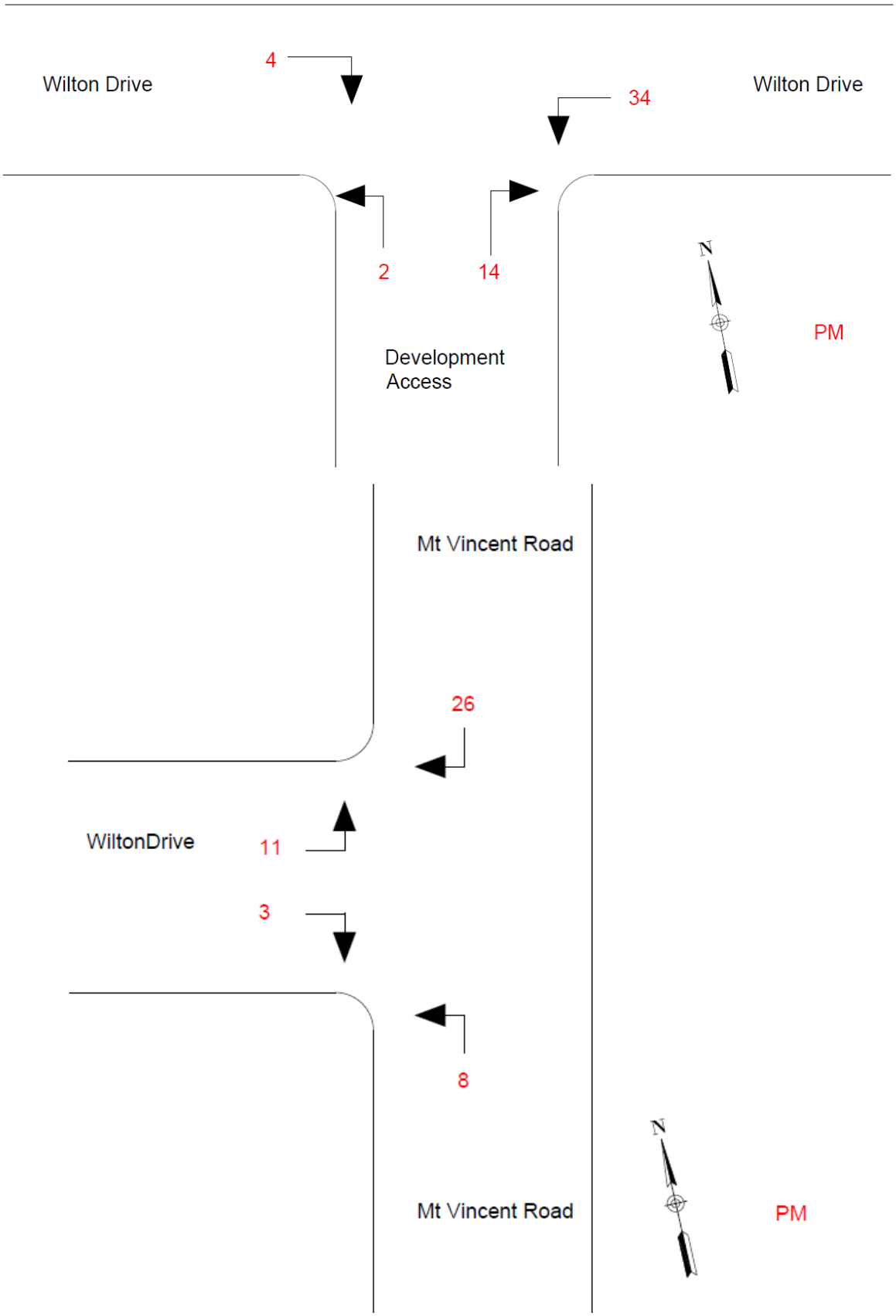


Figure 3 – Development Trip Distribution - PM

11.0 TRAFFIC IMPACTS OF DEVELOPMENT

11.1 Road Network Capacity

It has previously been shown in ***Section 6*** of this report that the local road network is currently operating well within its technical mid-block capacity.

The proposed development of the site is likely to generate the following additional traffic on the local road network based on the trip distributions shown in ***Figure 3***;

- Mount Vincent Road – 37 vtph in the PM peak.
- Wilton Drive – 48 vtph in the PM peak.

The addition of this traffic onto the existing traffic volumes determined in ***Section 5*** will not result in the capacity thresholds for Mount Vincent Road and Wilton Drive determined in ***Section 6*** to be reached. Even with 1.5 % per annum traffic growth over a ten year period these road capacity thresholds are not reached. This is demonstrated in ***Table 1*** below.

Table 1 - Road Capacity Assessment

		PM Traffic Scenarios		
Road	Capacity (vtph)	2016 (vtph)	2016 plus development (vtph)	2026 (vtph)
Mount Vincent Road	1,500	806	843	972
Wilton Drive	500	85	133	146

Therefore it can be concluded that the local road network subject to suitable intersection controls being in place has sufficient spare capacity to cater for the proposed development.

11.2 Intersection Capacity

In assessing intersection performance the main intersection of concern will be the Mount Vincent Road / Wilton Drive intersection. This intersection has to cater for the additional traffic from the development. For this assessment it needs to be determined whether the intersection as currently constructed can cater for the additional traffic generated by this development or whether any upgrading works are necessary e.g. conversion to roundabout.

The impacts of the development are best assessed using the SIDRA intersection modelling software. This software package predicts likely delays, queue lengths and thus levels of service that will occur at intersections. Assessment is then based on the level of service requirements of the RMS shown below;

Assumptions made in this modelling were;

- The intersection layout will remain as per current conditions i.e. an AUR/AUL type intersection under nomenclature adopted by Austroads.
- Traffic volumes used in the modelling was as collected by Intersect Traffic on Friday 12th December 2014 i.e. post opening of the Hunter Expressway.
- Traffic generated by the development is distributed as per ***Figure 3.***
- Future traffic growth predicted using a 1.5 % per annum background traffic growth rate.

Table 4.2
Level of service criteria for intersections

Level of Service	Average Delay per Vehicle (secs/veh)	Traffic Signals, Roundabout	Give Way & Stop Signs
A	< 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays & spare capacity	Acceptable delays & spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Operating near capacity	Near capacity & accident study required
E	57 to 70	At capacity; at signals, incidents will cause excessive delays Roundabouts require other control mode	At capacity, requires other control mode

The results of the modelling are summarised in ***Table 2*** below for the worst movement based on LoS (i.e. average delay). The Sidra Movement Summary Tables are provided in ***Attachment C***.

Table 2 – Mount Vincent Road / Wilton Drive intersection – Sidra Modelling – Results Summary

Scenario	Movement	LoS	Average Delay (s)	95 % Back of Queue Length (cars)
2016 PM peak with development	Right turn out of Wilton Drive	B	19.5	0.2
2026 PM peak	Right turn out of Wilton Drive	B	23.5	0.2

This modelling shows that the Mount Vincent Road / Wilton Drive intersection currently operates satisfactorily during both the AM and PM peak periods and would continue to do so post development and with 10 years traffic growth to 2026. Average delays, LoS and 95 % back of queue lengths all remain at acceptable levels based on the RMS assessment criteria listed above. Therefore no upgrading of the intersection is required.

In assessing performance of the new development access with Wilton Drive it is noted that traffic on Wilton Drive is unlikely to exceed 300 vtph within a 10 year horizon. Therefore volumes at the access are well below the thresholds contained in the following table taken from Austroads *Guide to Traffic Management – Part 6 – Intersections, Interchanges & Crossings (2009)* for which the guide states a detailed analysis to demonstrate adequate capacity is available is unlikely to be necessary as uninterrupted flow conditions would prevail.

It can be concluded therefore that the proposed new development vehicular access to Wilton Drive will operate with uninterrupted flow conditions and as such can be constructed as normal private property urban access.

Major road type[1]	Major road flow (vph)[2]	Minor road flow (vph)[3]
Two-lane	400	250
	500	200
	650	100
Four-lane	1000	100
	1500	50
	2000	25

Notes:

1. Major road is through road (i.e. has priority).
2. Major road flow includes all major road traffic with priority over minor road traffic.
3. Minor road design volumes include through and turning volumes.

11.3 Access

In assessing the accesses compliance with Australian Standard *AS2890.1-2004 Parking facilities – Part 1 - Off-street car parking* the following is noted*:*

- Vehicular sight distance from the access has been observed to be suitable to meet the requirements as shown in Figure 3.2 of the Standard. i.e. minimum 45 metres for a 50 km/h speed zone
- Pedestrian sight lines as required in Figure 3.2 of the Standard is achieved with the construction of a combined entry / exit driveway and the appropriate design of landscaping and fencing around the access; and
- The access will support approximately 300 car spaces. Table 3.1 of the Standard thus requires a minimum Class 2 access facility to be constructed for class 1 parking. Table 3.2 of the Standard then designates a Class 2 access facility as a combined entry / exit 6.0 metres to 9.0 metres wide. As a minimum 6 metre wide combined entry / exit access is to be provided the proposal complies with the Standard in this regard.

Whilst the concept plans for the site are not detailed to provide dimensions the site is large enough to ensure the internal roads complies with the requirements of Australian Standard *AS2890.1-2004 Parking facilities – Part 1 - Off-street car parking* which requires the minimum width of the internal two way roads to be 5.5 metres.

It is therefore concluded the proposed site access is safe and suitable as it would comply with Maitland City Council and Australian Standard *AS2890.1-2004 Parking facilities – Part 1 - Off-street car parking.*

11.4 Off-Street Parking

On-site parking and manoeuvrability should comply with Australian Standard *AS2890.1-2004 Parking facilities – Off-street car parking* and *State Environmental Planning Policy (SEPP) (Housing for Seniors and People with a Disability) 2004*. The SEPP states the following in Part 7 Development Standards that cannot be used as grounds to refuse a consent within Division 4 Self-contained units (Clause 50);

(h) Parking: if at least the following is provided:

(i) 0.5 car spaces for each bedroom where the development application is made by a person other than a social housing provider, or

(ii) 1 car space for each 5 dwellings where the development application is made by, or is made by a person jointly with, a social housing provider.

The proposal is likely to provide in the order of 357 bedrooms within the buildings on the site and as proposed by a private entity and not a social housing provider the proposed seniors living development would need to provide a total of 179 on-site car parks. Noting that at least 312 resident and visitor car parks are proposed within the concept plan it is concluded that sufficient on-site car parking is provided within the development.

Further whilst the current concept plan is not suitably detailed to provide dimensions there is sufficient room and excess of car parking on the site to ensure all parking spaces and manoeuvring areas could comply with the requirements of both Australian Standard *AS2890.1-2004 Parking facilities – Off-street car parking* and *State Environmental Planning Policy (SEPP) (Housing for Seniors and People with a Disability) 2004* which does require increased car park widths.

11.5 Servicing

As a seniors living development suitable servicing of the site is required to be designed into the development. In this regard the key servicing will be the regular weekly waste collection. This will be undertaken by a private contractor using a suitably sized MRV (8.8 m) side collection vehicle that will enter the site and collect waste from bins within the site. Normal waste and recyclables will be collected separately. The internal road layout and design will therefore need to be able to accommodate the movement of this vehicle such that forward entry and exit from the site onto Wilton Drive will occur. Whilst the concept plan at this stage is not detailed enough to provide swept turning paths there is sufficient room on site for this to occur. Swept turning paths for the waste collection vehicle demonstrating satisfactory manoeuvring onto, through and out of the site will be provided at DA stage should this development progress to this stage. No other major servicing of the site would be required.

12.0 PEDESTRIAN & CYCLE FACILITIES

The proposed development may generate pedestrian and cycle traffic therefore a nexus would exist to provide additional facilities. The provision of such facilities would however be up to the future asset owner i.e. Maitland City Council to determine as future maintenance responsibility would lie with the Council. Provision of such facilities should also consider the fairness and reasonableness of such cost burdens on the developer given the lack of existing facilities in the area.

Generally these additional facilities would be considered at development application stage however it is considered the following proposals would provide benefit to future residents of the development;

- Shared pedestrian and cycle path along the Wilton Drive frontage of the site to connect to the pathway on Mount Vincent Road.
- Internal pedestrian pathways to Maitland City Council requirements.

13.0 PUBLIC TRANSPORT FACILITIES

The proposed development may generate additional public transport usage and under *State Environmental Planning Policy (SEPP) (Housing for Seniors and People with a Disability) 2004* the site residents must have access to a bus with a minimum capacity of 10 persons. Whilst the local bus service does run past the site the nearest bus stop is not convenient to the site. . To provide a satisfactory public transport service to the development would only require the provision of a bus stop (with shelter and seating) on Wilton Drive at the access to the site. This would require some liaison with Maitland City Council, Department of Transport and the bus company at Construction Certificate stage.

Alternatively if this cannot be organised the proponent will operate a separate suitably sized bus to operate a shuttle service to major service areas in the Maitland local government area.

14.0 CONCLUSIONS

This traffic impact assessment for a proposed Seniors Living Development on Lot 8 DP 855275, 6 Wilton Drive, East Maitland and part of Lot 42 DP 846326, Mount Vincent Road, East Maitland which is likely to provide up to 134 residential dwellings has concluded;

- Existing traffic volumes on the local road network are within the technical and environmental capacity standards determined by Austroads and the NSW Roads and Maritime Services (RMS).
- The local road network is currently operating satisfactorily with good levels of service and little if any delay for motorists and has capacity to cater for additional traffic associated with new development in the area.
- The proposed development is likely to generate an additional 54 vehicle trips per hour during the AM peak and PM peak traffic periods.
- The local road network currently has sufficient spare capacity to cater for the development traffic generated by this development without adversely impacting on either current levels of service experienced by motorists on the road or the residential amenity of existing residents.
- Sidra modelling of the Mount Vincent Road / Wilton Drive intersection has shown that it currently operates satisfactorily during both the AM and PM peak periods and would continue to do so post development and with 10 years traffic growth to 2026. Average delays, LoS and 95 % back of queue lengths all remain at acceptable levels based on the RMS assessment criteria.
- The site access at Wilton Drive will operate with uninterrupted flow conditions and as such can be constructed as a normal urban property access.
- The proposed site access is safe and suitable as it would comply with Maitland City Council and Australian Standard AS2890.1-2004 Parking facilities – Part 1 - Off-street car parking.
- The proposed development provides sufficient and suitable on-site car parking to meet the requirements of both Australian Standard AS2890.1-2004 Parking facilities – Off-street car parking and State Environmental Planning Policy (SEPP) (Housing for Seniors and People with a Disability) 2004.
- The site can be suitably serviced for waste collection via a private contractor utilising a side loading MRV (8.8 metre) collection vehicle weekly. There is sufficient room on site for this vehicle to enter the site, manoeuvre through the site and exit the site in a forward direction.
- The proposed development will generate pedestrian and cycle traffic therefore a nexus would exist to provide additional facilities. Generally these additional facilities would be considered at development application stage and conditioned by the consent authority but it is considered the provision of a shared pedestrian / cycle path along the Wilton Drive frontage of the site would provide some benefit to future residents of the development by linking to existing pathways.
- The proposed development may generate additional public transport usage and under State Environmental Planning Policy (SEPP) (Housing for Seniors and People with a Disability) 2004 the site residents must have access to a bus with a minimum capacity of 10 persons. To provide a satisfactory public transport service to the development would only require the provision of a bus stop (with shelter and seating) on Wilton Drive at the access to the site. This would require some liaison with Maitland City Council, Department of Transport and the bus company at Construction Certificate stage. Alternatively the proponent will operate a separate suitably sized bus to operate a shuttle service to major service areas in the Maitland local government area.

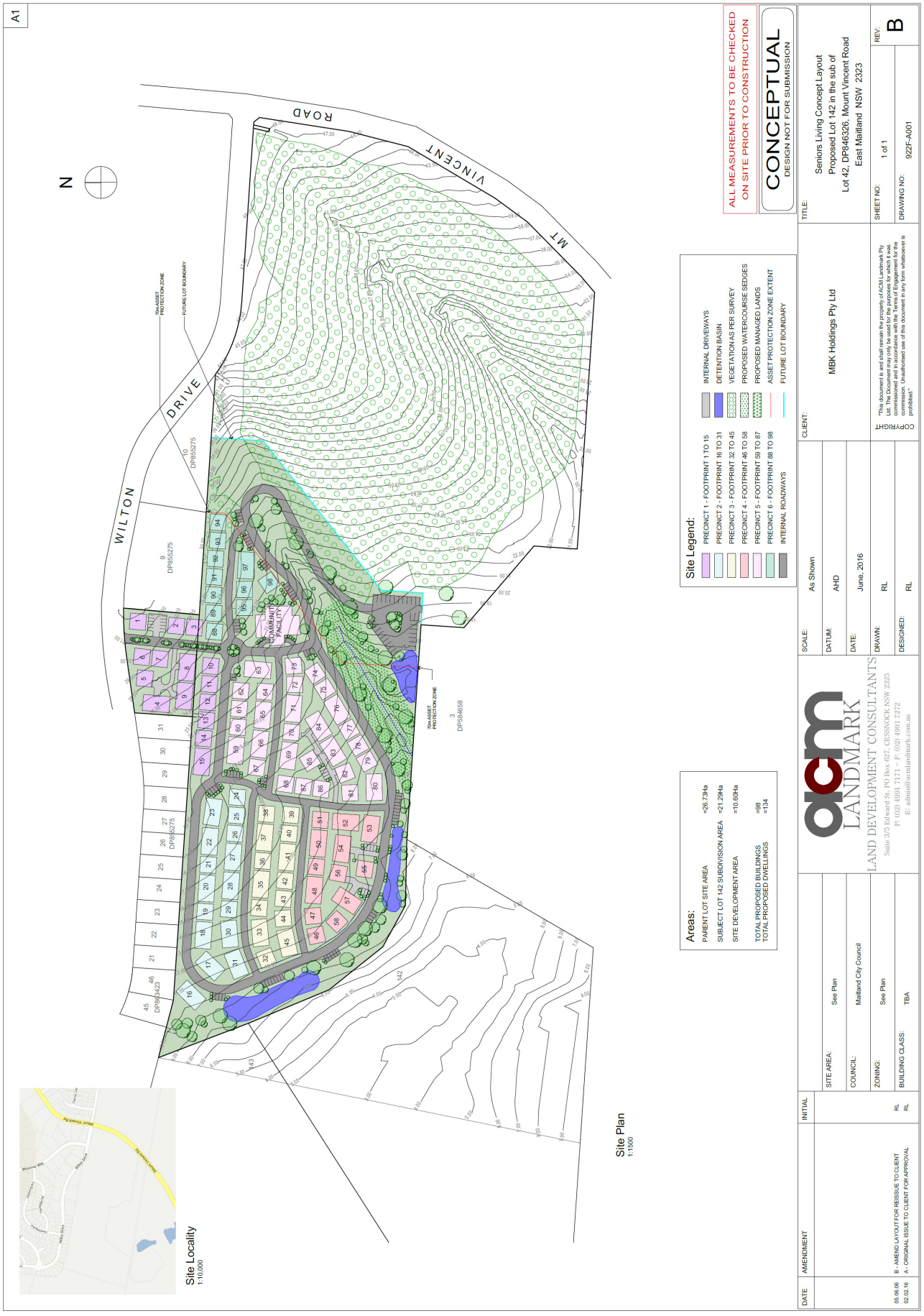
15.0 RECOMMENDATION

Having carried out this traffic impact assessment for a proposed Seniors Living Development on Lot 8 DP 855275, 6 Wilton Drive, East Maitland and part of Lot 42 DP 846326, Mount Vincent Road, East Maitland it is recommended that the proposal can be supported from a traffic impact perspective as it will not adversely impact on the local and state road network and complies with all relevant Maitland City Council, Austroads, State Environmental Planning Policy (SEPP) (Housing for Seniors and People with a Disability) 2004 and NSW Roads and Maritime Services (RMS) traffic and parking related requirements.

JR Garry BE (Civil), Masters of Traffic
Director
Intersect Traffic Pty Ltd

ATTACHMENT A

Development Plans


A1
N
WILTON DRIVE
VINCENT ROAD MT
FUTURE LOT BOUNDARY
FLOODWAY PROTECTION ZONE
COMMUNITY FACILITY
Site Plan
1:1500
Site Locality
1:10,000
Site Legend:
PRECINCT 1 - FOOTPRINT 1 TO 15
PRECINCT 2 - FOOTPRINT 16 TO 31
PRECINCT 3 - FOOTPRINT 32 TO 45
PRECINCT 4 - FOOTPRINT 46 TO 58
PRECINCT 5 - FOOTPRINT 59 TO 87
PRECINCT 6 - FOOTPRINT 88 TO 98
INTERNAL ROADWAYS
INTERNAL DRIVEWAYS
DETENTION BASIN
VEGETATION AS PER SURVEY
PROPOSED WATERCOURSE SEDGES
PROPOSED MANAGED LANDS
ASSET PROTECTION ZONE EXTENT
FUTURE LOT BOUNDARY
Areas:
PARENT LOT SITE AREA =26.73Ha
SUBJECT LOT 142 SUBDIVISION AREA =21.28Ha
SITE DEVELOPMENT AREA =10.60Ha
TOTAL PROPOSED BUILDINGS =68
TOTAL PROPOSED DWELLINGS =134
ALL MEASUREMENTS TO BE CHECKED ON SITE PRIOR TO CONSTRUCTION
CONCEPTUAL
DESIGN NOT FOR SUBMISSION
TITLE: Seniors Living Concept Layout Proposed Lot 142 in the sub of Lot 42, DP846326, Mount Vincent Road East Maitland NSW 2323
CLIENT: MBK Holdings Pty Ltd
SCALE: As Shown
DATUM: AHD
DATE: June, 2016
DRAWN: RL
DESIGNED: RL
SHEET NO: 1 of 1
DRAWING NO: 922F-A001
REV: B
COPYRIGHT
LANDMARK LAND DEVELOPMENT CONSULTANTS
Suite 3/5 Edward St, PO Box 827, CESSNOCK NSW 2325
P: (02) 4991 7171 – F: (02) 4991 7272
E: admin@acmlandmark.com.au
SITE AREA: See Plan
COUNCIL: Maitland City Council
ZONING: See Plan
BUILDING CLASS: TBA
DATE AMENDMENT INITIAL
05.06.06 B - AMEND LAYOUT FOR REISSUE TO CLIENT RL
02.02.16 A - ORIGINAL ISSUE TO CLIENT FOR APPROVAL RL

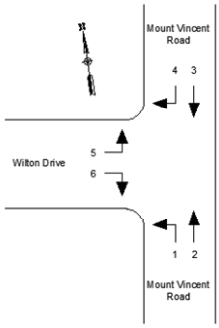
ATTACHMENT B

Traffic Count Data

Date	12th December 2014
Day	Friday
Time	8:00am - 9:00am
Weather	Overcast
Conducted by:	Jeff

MOVEMENT	1	2	3	4	5	6
8:00 - 8:15	1	58	60	2	7	4
8:15 - 8:30	2	84	72	6	11	5
8:30 - 8:45	1	88	46	3	14	4
8:45 - 9:00	1	68	51	7	14	0
SUM	5	298	229	18	46	13
PEAK	5	298	229	18	46	13

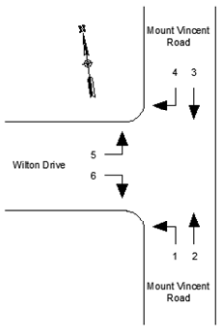
Leg	PHT (vph)
Mount Vincent Road North	591
Mount Vincent Road South	545
Wilton Drive	82



Date	12th December 2014
Day	Friday
Time	4:30 - 5:30 PM
Weather	Overcast
Conducted by:	Jeff

MOVEMENT	1	2	3	4	5	6
4:30 - 4:45	4	76	98	8	7	1
4:45 - 5:00	3	76	96	8	9	2
5:00 - 5:15	3	81	117	16	6	3
5:15 - 5:30	4	81	86	11	6	3
SUM	14	314	397	43	28	9
PEAK	14	314	397	43	28	9

Leg	PHT (vph)
Mount Vincent Road North	782
Mount Vincent Road South	734
Wilton Drive	94



ATTACHMENT C

SIDRA Movement Summary Tables

MOVEMENT SUMMARY

Site: 2016 PM Peak - with development

Mount Vincent Road and Wilton Drive Intersection
Stop (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Mount Vincent Road											
1	L2	22	5.0	0.012	6.4	LOS A	0.0	0.0	0.00	0.61	58.3
2	T1	323	5.0	0.171	0.0	LOS A	0.0	0.0	0.00	0.00	70.0
Approach		345	5.0	0.171	0.4	NA	0.0	0.0	0.00	0.04	69.1
North: Mount Vincent Road											
8	T1	409	5.0	0.238	0.5	LOS A	0.8	5.9	0.17	0.09	67.8
9	R2	70	5.0	0.238	8.6	LOS A	0.8	5.9	0.22	0.12	55.7
Approach		479	5.0	0.238	1.7	NA	0.8	5.9	0.18	0.10	65.7
West: Wilton Drive											
10	L2	40	5.0	0.050	9.6	LOS A	0.2	1.3	0.41	0.90	48.4
12	R2	12	5.0	0.046	19.5	LOS B	0.2	1.1	0.74	1.00	42.9
Approach		52	5.0	0.050	11.9	LOS A	0.2	1.3	0.49	0.92	47.0
All Vehicles		876	5.0	0.238	1.8	NA	0.8	5.9	0.13	0.12	65.4

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Organisation: INTERSECT TRAFFIC PTY LTD | Processed: Friday, July 1, 2016 1:42:10 PM
Project: C:\Work Documents\Project Files\2016\16.097 - SL - Wilton Drive East Maitland\Sidra\Intersection MtVincentRdWiltonDr.sip6

MOVEMENT SUMMARY

Site: 2026 PM Peak - with development

Mount Vincent Road and Wilton Drive Intersection
Stop (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Mount Vincent Road											
1	L2	25	5.0	0.014	6.4	LOS A	0.0	0.0	0.00	0.61	58.3
2	T1	371	5.0	0.196	0.0	LOS A	0.0	0.0	0.00	0.00	69.9
Approach		396	5.0	0.196	0.4	NA	0.0	0.0	0.00	0.04	69.1
North: Mount Vincent Road											
8	T1	468	5.0	0.274	0.7	LOS A	1.0	7.2	0.18	0.09	67.7
9	R2	77	5.0	0.274	9.1	LOS A	1.0	7.2	0.24	0.12	55.6
Approach		545	5.0	0.274	1.8	NA	1.0	7.2	0.19	0.10	65.7
West: Wilton Drive											
10	L2	44	5.0	0.059	10.0	LOS A	0.2	1.5	0.44	0.91	48.2
12	R2	14	5.0	0.067	23.5	LOS B	0.2	1.6	0.80	1.00	41.0
Approach		58	5.0	0.067	13.2	LOS A	0.2	1.6	0.53	0.93	46.3
All Vehicles		999	5.0	0.274	1.9	NA	1.0	7.2	0.14	0.12	65.4

Level of Service (LOS) Method: Delay (RTA NSW).
Vehicle movement LOS values are based on average delay per movement
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Organisation: INTERSECT TRAFFIC PTY LTD | Processed: Friday, July 1, 2016 1:44:06 PM
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