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24 June 2024

P3045 Garnett Road East Maitland

Brown Commercial Building
PO Box 596
EAST MAITLAND NSW

Attn: Caitlin O'Brien

Dear Caitlin,

Proposed Service Station, 6 Garnett Road, East Maitland, NSW.

We have now completed our site work and review of the documentation provided for the proposed service station at 6 Garnett Road, East Maitland and provide the following assessment of parking demands, traffic generation and access arrangements for the development. This assessment has been completed with regard to the relevant requirements outlined in the Maitland Development Control Plan (2011) (MDCP), with reference to the Guide to Traffic Generating Developments (GtTGD) and Australian Standard AS2890.1: Off-street Car Parking Facilities.

Background

The subject site operates as the Maitland Taxi Service and is located on Garnett Road to the west of the Stockland Green Hills Shopping Centre and surrounding commercial businesses as shown below in Figure 1. The site has frontage to Garnett Road only with access provided from three driveways, one entry, one exit and the other two-way.

Garnett Road is a local road under the control of Maitland City Council and the service station does not provide for the refuelling of heavy vehicles, therefore the project does not trigger the requirement for referral to Transport for New South Wales under Schedule 3 of Transport and Infrastructure SEPP 2021.

The subject site has a commercial building and hardstand. The surrounding land is commercial/retail with low density residential development to the north and west and parkland/reserve opposite along with East Maitland Public Library. Neighbouring lots to the east include Service NSW along with various mixed retail and commercial units including an Aldi Supermarket at the western end of Garnett Road.

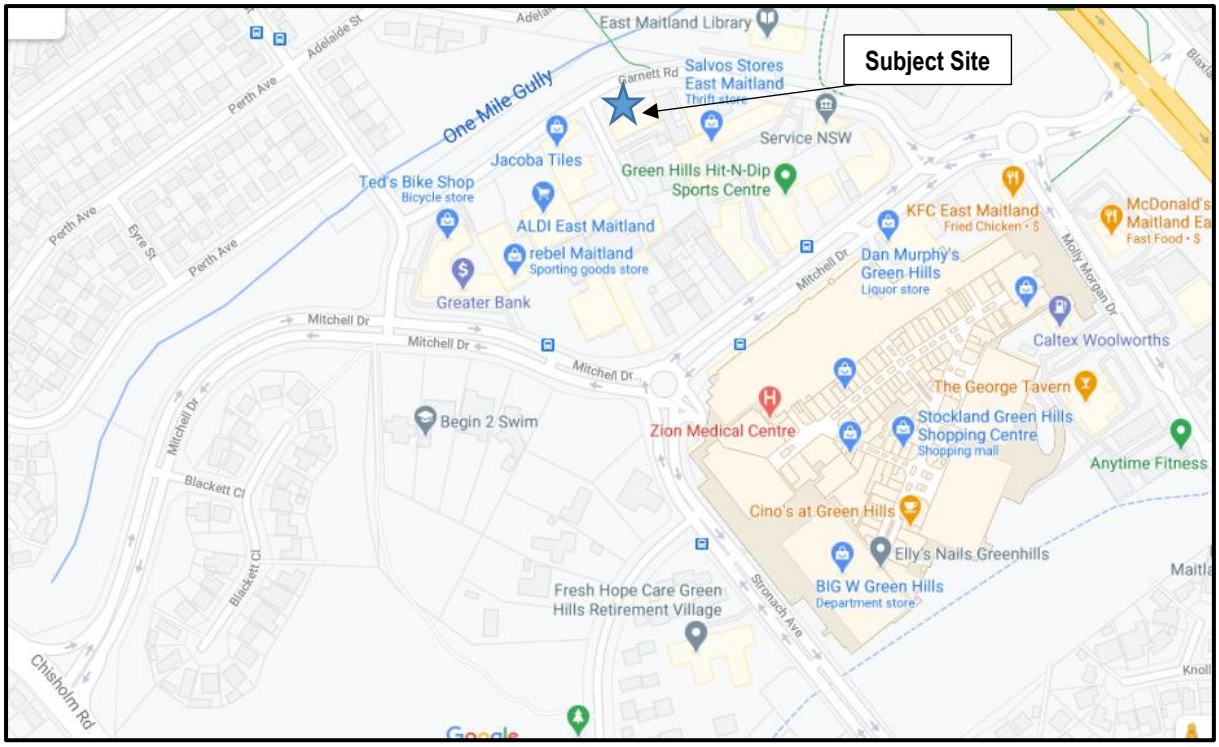

Figure 1 – Subject site in the context of the local road network

Road Hierarchy

New England Highway is the major road through the locality. It forms part of the state road network (HW9) and provides the primary link between Hexham through to Newcastle to the east and Muswellbrook and beyond to the Queensland border to the west and north. Locally it functions as an arterial road with the opening of the Hunter Expressway in 2014 removing large amounts of through regional and interstate traffic. In the vicinity of the site it operates under the posted speed limit of 60km/hr and generally provides two lanes of travel eastbound and westbound with a raised central median. There is a cycle lane provided through the intersection with Mitchell Drive and a sealed shoulder on each side allowing for break downs. Widening at intersections provides additional capacity with sheltered turn lanes provided for turns into Mitchell Drive and an additional westbound through lane. Street lighting is provided but there are minimal footpaths in the vicinity of the site.

Mitchell Drive is a local road which connects to the New England Highway via a signal-controlled 4 way intersection which allows for all turning movements via generally signalised slip lanes with signalised pedestrian crossings on all legs. It operates as a collector road through the Green Hills Commercial Precinct and connects with Chisolm Road to the south west. There is a raised central median to separate the opposing two lanes of travel in each direction. Each carriageway is in the order of 9-10m wide allowing adequate width for parking along each side. Kerb and guttering are provided along both sides of Mitchell Drive, with footpaths and street lighting. The speed limit in the vicinity of the site is 50km/h.

Garnett Road, off Mitchell Drive, is a local street providing a sealed surface allowing for two-way movements along with kerb side parking with a width in the order of 13 metres. It provides access to the various commercial and retail sites within the Green Hills precinct, to the west of the Stockland Green Hills Shopping Centre. It has kerb and guttering and generally footpaths along the southern side and a shared pathway on the north. Street lighting is provided, and parking is permitted along both sides with normal restrictions for driveways, bus stops and intersections. Parking is also controlled with No Standing signs to each side of the library driveways and No Parking Driving Test Only signage on the northern side diagonally opposite the site. Garnett Road, 500 metres in length, connects with Mitchell Drive at its eastern end at a priority-controlled T-intersection with a raised median on Mitchell Drive allowing for all turn movements in but right turn movements only out with Mitchell Drive having priority. At its western end Garnett Road connects with Brisbane Street at a priority-controlled T-intersection with a short channelised right turn lane on Brisbane Street. Brisbane Street has priority.

Further west Brisbane Street connects with Mitchell Drive at a priority-controlled T-intersection allowing for all turn movements with a channelised right turn lane provided for turns into Brisbane Street and the median shaped to allow for right turns out of Brisbane Street into Mitchell Drive, which has priority.

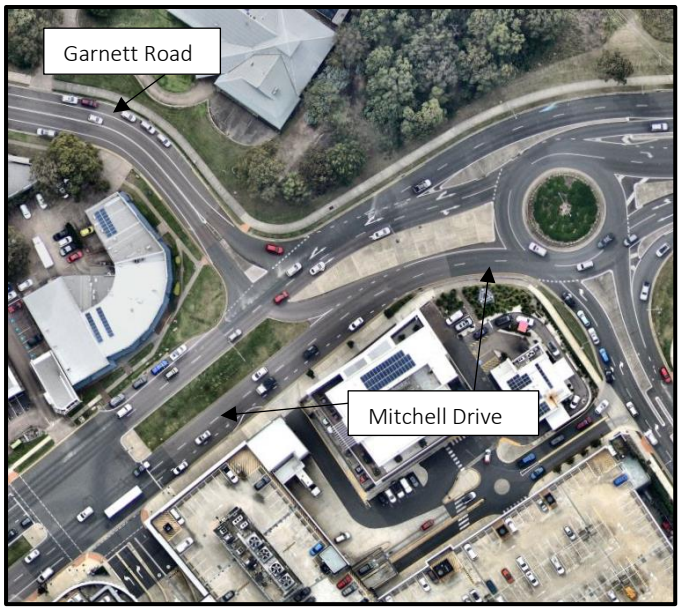

Figure 2 Intersection of Mitchell Drive and Garnett Road

Figure 3 Intersections of Garnett Rd / Brisbane St / Mitchell Dr

Current Road Network Operation

Seca Solution has undertaken afternoon traffic surveys at the intersection of Mitchell Drive and Garnett Road and Garnett Road and Brisbane Street on Tuesday 6th April 2024 between 4pm-6pm. The traffic surveys determined the local road peak to be 4-5pm and are shown in Figure 4 and Figure 5 below.

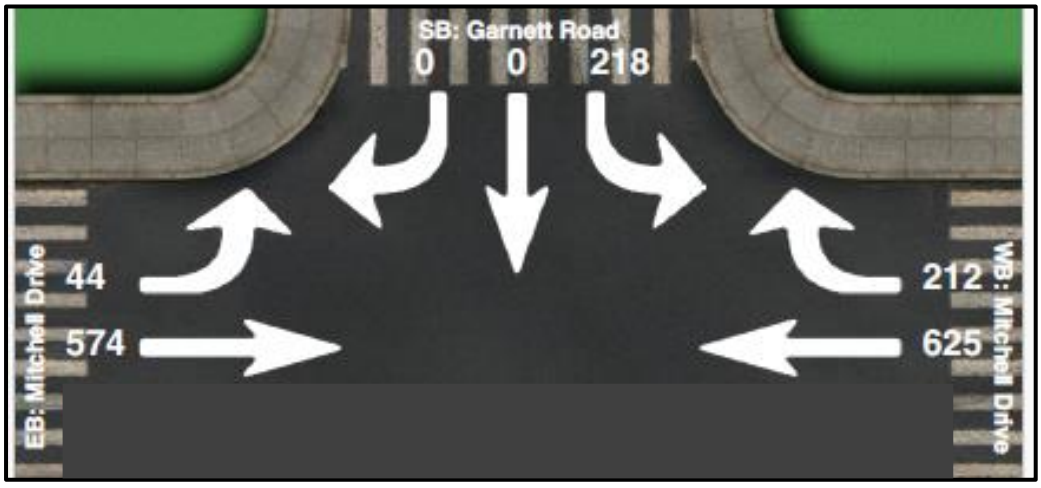

Figure 4 PM Peak (4-5pm) Traffic surveys at Garnett Road and Mitchell Drive

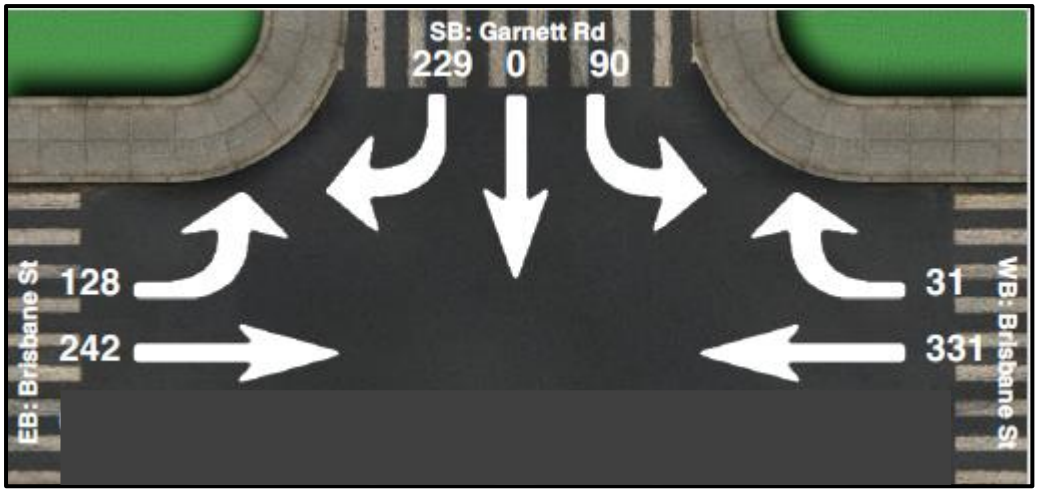

Figure 5 PM Peak (4.15-5.15pm) Traffic surveys at Garnett Road and Brisbane Street

Two way flow on Garnett Road in the vicinity of the subject site is therefore 476 vehicles per hour (vph) (256 vph westbound at Mitchell Drive and 319 vph westbound at Brisbane Street).

SECA Solution had also undertaken traffic counts at the intersection of Brisbane Street and Mitchell Drive on Thursday 17th November 2020 between 4pm-6pm with the peak hour 4-5pm. The two-way flow along Mitchell Drive at this location were 1225 vehicles per hour (677 westbound).

Based on the mid-block capacity Garnett Road operates with a Level of Service B being between 200 and 380 vph per direction.

Mitchell Drive, as a divided urban road with two lanes of travel two way with occasional parked cars operates with a capacity of 1900 vehicles per hour (vph). Our traffic survey indicates that this road operates well within its operational capacity.

Observations of the various intersections support our findings that they operate well with minimal delays and adequate spare capacity. The intersection of Garnett Road/Brisbane Street sees some minor queuing for the right turns out however these clear quickly with minimal delays. The intersection of Mitchell Drive/Garnett Road also operates well with minimal delays. Gaps in the through traffic provided by traffic signals to the immediate south (shopping centre carpark) allow for regular safe gaps to enable all right turns into Garnett Road.

A review of crash data shows there have been no accidents along Garnett Road in the past five years (2018-2022) including at the driveways to neighbouring businesses.

There have been three accidents at the intersection of Mitchell Drive and Brisbane Street. One involving a right turning vehicle, one being rear end type collisions and a third being north of the intersection with a vehicle out of control running off the road in the west. There have been no accidents since 2019 when this intersection was upgraded allowing for turning vehicles to be clear of the through lane.

Public Transport

A large number of bus services operate to Stockland Green Hills with routes 145,179,180,181,182,183,184,187 operated by Hunter Valley Buses. These buses operate along Mitchell Drive with no bus operating along Garnett Road.

145 – Stockland Green Hills to Newcastle Airport
179 – North Rothbury to Stockland Green Hills
180 – Singleton Heights to Stockland Green Hills

181 – Aberglasslyn to Woodbury
182 – Rutherford to Thornton
183 – Rutherford to Tenambit
184 – Green Hills Shopping Centre to Morpeth
187 – East Maitland to Metford
188 – Green Hills Shopping Centre to Woodlands Estate
189 – Green Hills Shopping Centre to Thornton via Chisholm

There are bus stops on both sides of Mitchell Drive adjacent to the Green Hills Shopping Centre.

The closes train station is Victoria Street, East Maitland, a 7 minute drive from the subject site.

Taxis also service this area with a taxi rank at the Green Hills Shopping Centre.

Car Parking

On-street carparking is available along the local roads surrounding the site with typical restrictions associated with driveways and intersections. On-street parking along Garnett Road is generally uncontrolled although there is a short length of 1 hour parking to the eastern end of Garnett Road and opposite the Service NSW driveway to the east of the library a length of parking limited between 6am and 6pm for driving tests.

Off-street parking is provided in conjunction with the various retail and commercial sites within the immediate area including surrounding the library.

Other Developments

A review of the Maitland DA tracker indicates recent DAs within the vicinity are primarily associated with modifications to Aldi to the west of the site (18-20 Garnett Road). There are no significant developments within the immediate vicinity of the subject site.

Proposed Development

The proposed development is for the construction of a service station and convenience store (140m^2).

Parking is provided for 9 vehicles plus space at the two bowsers to allow four cars to fill and pay.

There are two driveways allowing for entry and exit into and out of the site.

A concept plan for the proposed development is included in **Attachment A**.

Access

The site has three existing accesses onto Garnett Road. The driveways are proposed to be rationalised. The site will provide one-way movement from east to west. The existing centre driveway will be made exit only. The existing eastern driveway will be sign posted as entry only and the existing western driveway will be removed. Internal pavement arrows will confirm this arrangement.

The centre driveway shall be widened to allow for the swept path of the fuel tanker, enabling a left in left out access to the site for this size vehicle. This is the largest vehicle that shall require access which exceeds the vehicle size for waste collection. The local roads do not form part of a B-Double route and given the size of the site it is not expected that motorists towing larger caravans are likely to want to access the site.

Swept paths for this movement are shown in the concept plan (Attachment A).

As part of the project work, SECA Solution has reviewed the sight lines along the site frontage on Garnett Road. Garnett Road provides a gentle curve with the site located on the inside of the curve to assist visibility. Consistent with all driveways along this length of road, sight lines are impacted by parked cars which require vehicles to nose

forward to confirm there are gaps in the traffic. Observations on site are that motorists traversing this length of road are familiar with these arrangements and travel at less than the urban speed limit of 50km/h. The crash data indicates there have been no crashes along Garnett Road for the five years 2018-2022 indicating the various driveways, including those of the subject site operate well.

Sight distance requirements for an access driveway are prescribed by Australian Standard AS2890.1:2004 Parking Facilities (Off-street Car Parking), which requires a minimum sight distance of 45 metres for the posted speed limit of 50 km/hr, with a desirable sight distance of 69 metres.

Cars parking on both sides of driveways is a typical situation along Garnett Road and whilst considered a temporary obstruction it is generally possible to achieve sight lines by manoeuvring a vehicle to use gaps in the parking or adjacent driveways to see approaching vehicles. Motorists in this area are familiar with this situation and appear to drive accordingly.

From the exit driveway visibility can be impacted by parked cars along the site frontage requiring motorists to nudge forward to confirm suitable gaps in the traffic to exit. To the left (west) visibility is available through gaps created by driveways for a distance of 61 metres.

Photo 1 Sight visibility to the right (east) from the western driveway

Photo 2 Sight visibility to the left (west) from the western driveway assisted by driveways but impacted by parked cars.(subject to design changes)

Proposed Modifications

Given these constraints SECA Solution considered options to provide suitable ingress and egress for the proposed service station.

In the development of possible treatments consideration was given to maintaining access to adjoining developments, in particular the public library opposite the site and access to Service NSW to the east of the site.

Whilst options such as a median may prevent right turn movements in and out of the site, a median would also prevent right turn movements into the library and prevent right turn movements out of the library. The detour for vehicles that would be west bound on Garnett Road approaching the library would require them to turn left and left again onto Mitchell Drive and further negotiations to turn back.

SECA Solution also investigated the installation of a right turn bay into the site. As this would block the entry driveway to the library and complicate the right turn out of the library it is not recommended. The best that could be achieved is back-to-back turn bays for both the library and the subject site. Due to the close spacing of the driveways only one car length storage could be provided but it would also compromise right turn movements out of the library eastern exit driveway and confuse the access to Service NSW.

To provide an achievable arrangement it is recommended that traffic flow through the subject site is one directional from east to west, permitting left in and right in at the eastern driveway and left out and right out at the western driveway. To improve sight lines for exiting vehicles that the kerb side parking between the east and west driveway be banned.

Some parking to the west of the exit driveway shall be removed to allow for the swept path of the refuelling tanker which shall also enhance sight distances to the west. The closing of the most western driveway and the reinstatement of kerb and guttering will provide one additional kerbside parking space.

Pedestrian Facilities

Garnett Road has an existing pedestrian footpath along the site frontage to allow for pedestrian access. There is no change to sight lines for pedestrians.

Photo 3 Footpath along site frontage looking east

Parking

A total of 9 parking spaces are to be provided within the site, one of which is accessible and one allows for air and water.

MDCP 2011 provides the following guidelines for Service Station/Highway service centres:

6 spaces per work bay *plus*
1 space per 20m2 GFA of convenience store *plus*
1 space per 6.5m2 GFA or 1 space per 3 seats if a restaurant is provided.

The proposed development does not include working bays nor a restaurant and so the parking demands would be 7 spaces based on the convenience store GFA of 140m^2.

All general parking spaces within the carpark shall be designed in accordance with AS2890 for a Class 3 parking facility with spaces 2.6m wide by 5.4m long. Staff parking may be 2.4m wide.

Accessible parking shall be designed in accordance with AS2890.6 with spaces 2.4m wide and 5.4m long with a shared space adjacent the same size.

The provision of 9 parking spaces on site therefore allows an appropriate level of parking for the proposed development and ensures all parking can be contained within the site.

Site Servicing

Servicing for the site will be fuel deliveries, occasional product deliveries and waste collection.

A loading bay is provided adjacent to the building to provide for deliveries and waste storage and collection.

All service vehicles will be able to enter and exit the site in a forward direction.

Traffic Analysis

Traffic Generation

The GtTGDs nominates the following traffic generation rates for service stations:

Evening peak hour trip rate = 0.04 A(S) + 0.3 A(F) *OR*
= 0.66 A(F)

where A(S) is the area of the site in M^2 and A(F) is the gross floor area of the convenience store.

Allowing for the site area of 1002.5m^2 and the convenience store area of 140m^2 the evening peak hour rate is given at 62 trips per hour (31 inbound/31 outbound).

At the time of writing there was a Draft Guide to Traffic Generating Development which had been on display for industry consultation (May 2024) however had not yet been adopted and so the above rates have been applied to this development.

The service station will see a high demand for passing trade being existing traffic already on Garnett Road, as well as diverted trips from Mitchell Drive. It is unlikely to see any demand for motorists to turn off the New England Highway with several petrol stations on the left off Mitchell Drive for these demands which are likely to be used by motorists needing fuel urgently.

The site has previously operated as the Maitland Taxi Service and is likely to have seen a turn over of vehicles throughout the day, particularly allowing for drivers to come and pick up a taxi at the start of a shift as well as staff associated with the operation of the depot. Allowing for a GFA of 135m^2, as a commercial site traffic demands are likely to have been in the order of 3 tips in the evening peak and 14 trips per day with the evening peak hour trips most likely to be associated with staff leaving. No discount has therefore been applied for these demands.

For a service station there is no set rate for daily trips which could be in the order of 930 trips (465 inbound 465 outbound) allowing 15 times the peak hour rate.

Traffic Distribution

The local road demands are at their peak in the PM associated with both commuters returning home and local workers from the Green Hills Shopping Centre and surrounding businesses. Morning demands are less given the separation of these travel demands. This assessment has therefore been undertaken based on PM traffic demands which coincide with the Service Station peak trip rate (GtTGDs).

Allowing for the existing traffic demands on Garnett Road (46% eastbound/54% westbound at the Mithcell Drive intersection) traffic is expected to approach the site from both east and west and exit to continue travelling in the same direction. Diverted trips would see motorists turning into Garnett Road to approach from the east or otherwise turn into Brisbane Street off Mitchell Drive to the west of the site.

Of these 50% (32 trips) are expected to be passing traffic already on Garnett Road with the balance being diverted trips from Mitchell Drive. No trips are expected to divert from the New England Highway.

Using the above values, the peak demand at the site access could be in the order of 62 vehicle movements (31 inbound/31 outbound), equally split to the east and west.

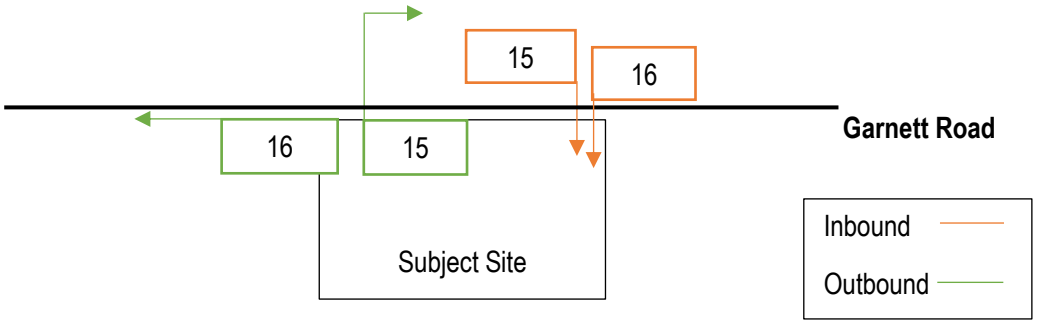

Figure 3 – Distribution of PM development traffic at the site access

Impact on Daily Traffic Flows

The development could result in an increase in peak hour flows along Garnett Road but in doing so may see an equivalent reduction in traffic along Mitchell Drive allowing for the diverted trips. Traffic flows on Garnett Road to the east or west of the site could increase by an additional 16 trips in the PM allowing for the 50% passing trade.

Garnett Road is currently well within its capacity as an urban road with the development increasing flows to 492 (476+16) vehicle movements two way in the afternoon peak, 264 vph westbound east of the site and 327 vph west of the site (at Brisbane Street). These flows are within the directional volume threshold of 380 vph to maintain the existing level of service (LoS B).

Daily flows on Garnett Road could increase by an extra 450 trips per day in conjunction with the development.

Peak Hour Impact on Intersections

Observations undertaken by SECA Solution show that the intersections of Mitchell Drive/Garnett Road, Garnett Road/Brisbane Street and Brisbane Street/ Mitchell Drive currently work well with minimal delays and congestion.

The development will result in a small increase in vehicle movements at these intersections with the diverted trips seeing an increase in turn demands (15-16 trips per hour or 1 extra vehicle every four minutes) but in turn will see reduced through movements.

It is considered that the diverted trips associated with the subject site shall therefore have a minor and acceptable impact upon the operation of these three intersections.

Queuing at Site Access

The eastern driveway shall provide entry to the site with vehicles able to turn right or left into the site as per the existing situation and consistent with other driveways along Garnett Road.

Garnett Road does not see a constant traffic stream with gaps created by vehicles entering off Mitchell Drive, at the eastern end, along with the main demands generated by workers coming or going from surrounding businesses along Garnett Road.

Delays for right turns into the site will be minimal with a motorist able to select a suitable gap and turn right into the site. The layout of the site allows free flow, reducing delays for entering vehicles.

Any delays associated with exiting motorists will also be minimal and shall occur on the exit driveway so not impact the operation of Garnett Road.

Conclusion

Overall, the proposed service station will have a minimal and acceptable impact upon traffic in the local area with no impediment to approval.

The majority of the traffic will already be on Garnett Road being passing trade (assumed at least 50%) with the balance also within the immediate area diverting from Mitchell Drive to purchase fuel.

The impact of this traffic diverted onto Garnett Road will be acceptable with Garnett Road staying within its operational capacity. The impact on the operation of the various intersections will also be minimal given that this traffic is already within the local road network, using these intersections and is not additional overall.

The impact of these diverted trips upon the overall operation of the surrounding roads and intersections will be minimal and therefore acceptable.

Parking has been assessed applying the Maitland DCP parking rates and the provision of 9 parking spaces exceeds the DCP requirement ensuring no impact on the local roads.

The access arrangement has been given detailed consideration by SECA Solution. To provide an achievable arrangement it is recommended that traffic flow through the subject site is one directional from east to west, permitting left in and right in at the eastern driveway and left out and right out at the western driveway. To improve sight lines for exiting vehicles that the kerb side parking between the east and west driveway be banned.

The redundant access to the west shall be replaced with kerb and guttering to provide some additional kerb side capacity.

Site servicing by a fuel tanker can be accommodated on site allowing for the vehicle to enter and exit in a forward direction turning left in and left out onto Garnett Road. There is a loading bay adjacent to the convenience store to provide for waste collection and deliveries enabling trucks to manoeuvre within the site and exit in a forward direction.

Please feel free to contact our office on 4032 7979 should you require any additional information.

Yours sincerely,

Cathy Thomas

Director

Version	Date	Description	Prepared by	Reviewed and Approved for Issue
Ver01	21/6/24	Draft	C.Thomas	F. Iacono
Ver02	24/6/24	Final	C.Thomas	F.Iacono

Attachment A: Concept Plan