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Subdivision of 53A and 53B
Warriewood Road, Warriewood
Transport Statement

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Subdivision of 53A and 53B Warriewood Road, Warriewood Transport Statement

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1. Introduction

1.1 Background

A development application is to be lodged with Northern Beaches Council for a proposed subdivision development on land located at 53A and 53B Warriewood Road in Warriewood. The proposed subdivision involves creating 17 lots (including 1 residue lot), together with demolition, drainage, earthworks and the extension of existing Lorikeet Grove and widening of existing Pheasant Place.

It has been estimated that this development would cater for approximately 43 new residents¹.

PeopleTrans was commissioned by ZYGT Pty Ltd in December 2018 to prepare a transport statement of the proposed development.

1.2 Scope and Objectives of this Report

This report sets out an assessment of the anticipated transport implications of the proposed development, including consideration of the following:

- (1) the active transport requirements (pedestrians and cyclists)
- (2) the public transport in the vicinity of the site.
- (3) the suitability of the proposed access
- (4) the service vehicle requirements
- (5) the transport generating characteristics of the proposed development
- (6) the transport impact of the proposal on the surrounding road network.

1.3 Background Studies/Proposals

The Warriewood Valley Roads Masterplan and the Warriewood Valley Landscape Masterplan were adopted by the Northern Beaches Council in 2018. They set out design guidelines for the Warriewood Valley area, which were considered as part of this transport assessment.

To understand the implications of the proposed subdivision on the surrounding transport network, previously completed transport studies for 41 Warriewood Road (2016) and 53, 53A and 53B Warriewood Road (2014) were also reviewed.

¹ 2016 Census Data for Warriewood

2. Existing Conditions

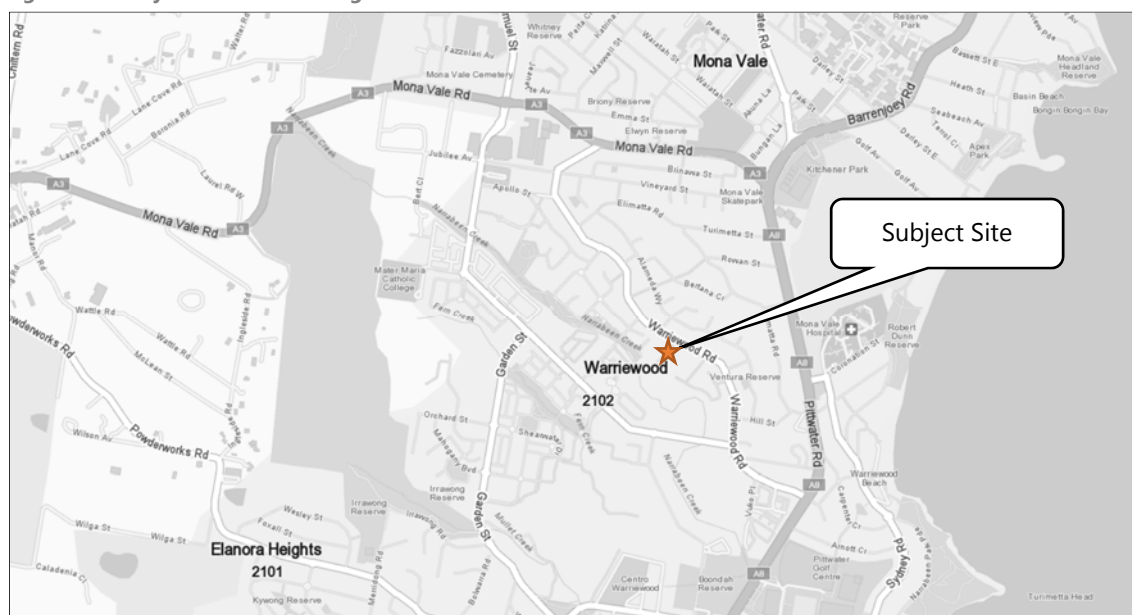
2.1 Site Location

The subject site is located at 53A and 53B Warriewood Road, Warriewood. The site of approximately 6,750sq.m has a frontage of approximately 35m to Warriewood Road. The site is currently zoned as R3 Medium Density Residential and is currently occupied by a single dwelling.

The surrounding properties predominantly include low to medium density residential uses.

The location of the subject site and its neighbourhood is shown in Figure 2.1.

Figure 2.1: Subject Site and Its Neighbourhood



Base map source: whereis.com

2.2 Pedestrian Facilities

Based on observations of the most recent Nearmap satellite image, sections of formal pedestrian paths are currently under construction or completed on the south-western side of Warriewood Road in the vicinity of the site. There are no formal pedestrian paths currently located on the north-eastern side of Warriewood Road. indicates the most recent formal pedestrian path conditions on Warriewood Road.

Figure 2.2: Existing Pedestrian Path Facilities (Nearmap 28/12/2018)



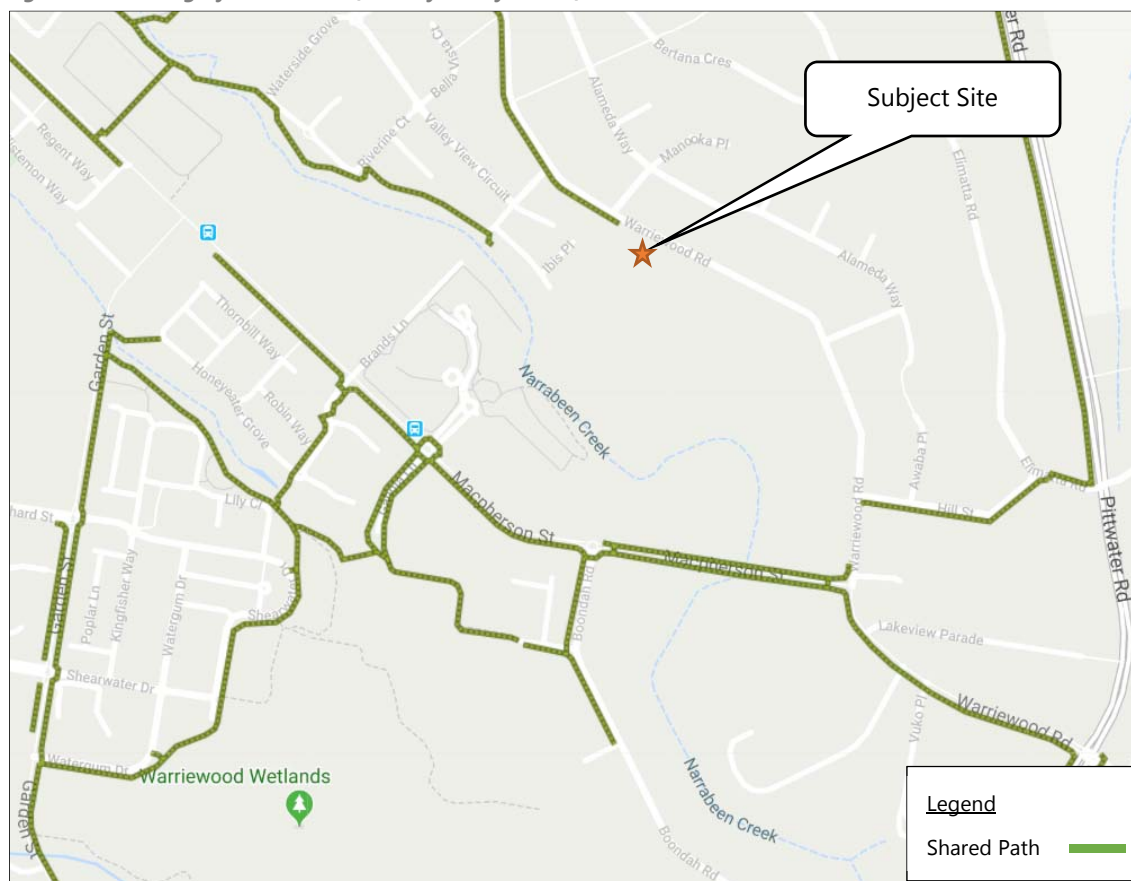
Base map source: nearmap.com.au

There are no formal pedestrian crossings or signalised intersections in close proximity to the site.

2.3 Cycle Facilities

A summary of the existing cycleways in the vicinity of the site is indicated in .

Figure 2.3: Existing Cycle Facilities (RMS Cycleway Finder)



indicates that there are limited cycleways in the vicinity of the site, with all available cycling routes being shared paths.

2.4 Public Transport

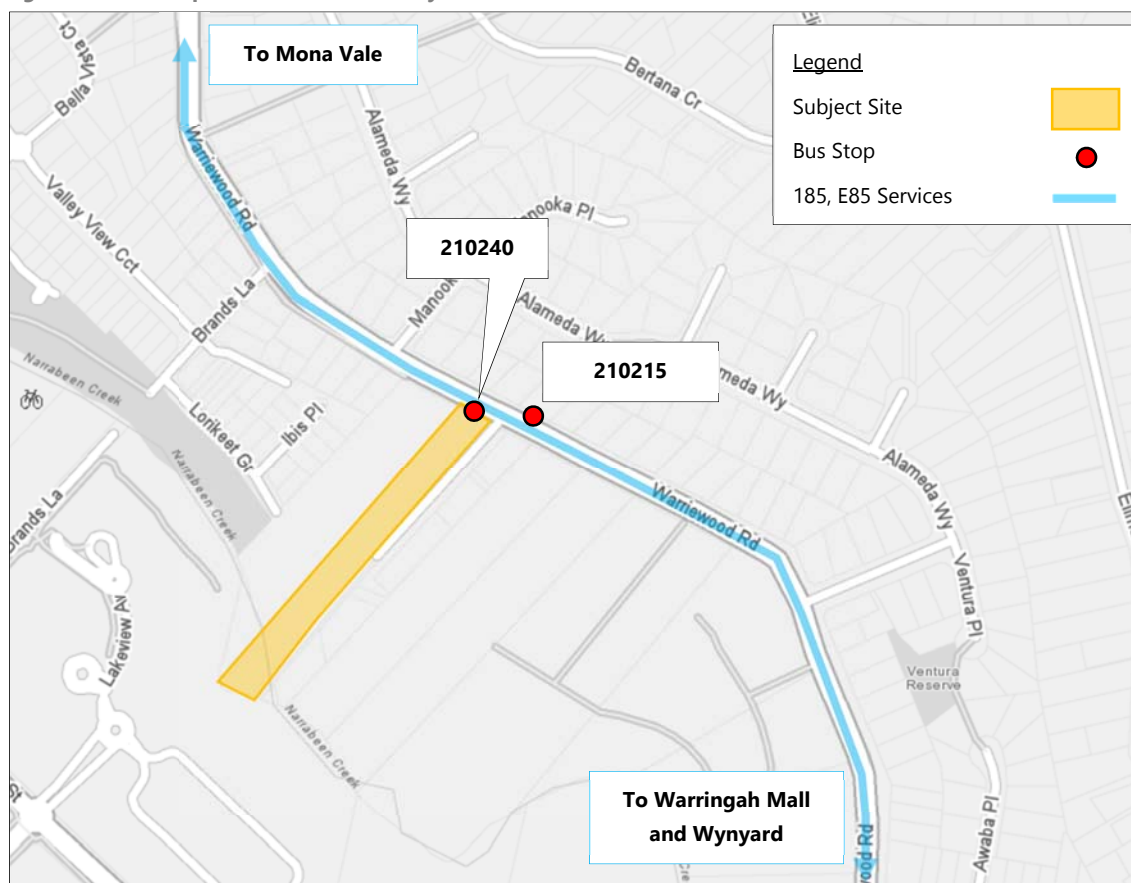
A review of the public transport available in the vicinity of the site is summarised in .

Table 2.1: Public Transport Provision

Mode	Route	Route Description	Location of Nearest Stop	Stop ID	Distance to Nearest Stop	Frequency On/Off peak
Bus	185	Mona Vale to Warringah Mall via Warriewood	Warriewood Road After Manooka Place	210215	100m	2 services / hour (9am – 10pm)
Bus	185	Mona Vale to Warringah Mall via Warriewood	Warriewood Road opposite Manooka Place	210240	50m	2 services / hour (5am – 5pm)
Bus	E85	Mona Vale to City Wynyard via Warriewood	Warriewood Road After Manooka Place	210215	100m	2 to 4 services / hour (AM Peak 5am – 9am)
Bus	E85	City Wynyard to Mona Vale via Warriewood	Warriewood Road opposite Manooka Place	210240	50m	2 to 4 services / hour (PM Peak 5pm – 9pm)

indicates the closest stops and routes summarised in , in relation to the subject site.

Figure 2.4: Bus Stops and Routes in Vicinity of 53A and 53B Warriewood Road



Base map source: whereis.com

2.5 Road Network

The existing road network is described in the following sections.

2.5.1 Adjoining Roads

Details of the roads in close proximity to the site are provided in Table 2.1.

Table 2.2 Summary of Adjoining Roads

Road Name	Classification ²	Orientation	Configuration	Approx. Width	Target Daily Volume ³	On-Street Restrictions
Warriewood Road	Collector Street	East-West	2-way road with 1 lane in each direction	7m	5,000	Unrestricted parking
Lorikeet Grove	Access Street	North-South	Unmarked 2-way road	7m	<300	Unrestricted parking
Brands Lane	Access Street	East-West	Unmarked 2-way road	7.5m	<300	Unrestricted parking
Macpherson Street	Sub-Arterial Street	East-West	2-way road with 1 lane in each direction	9m	10,000	Unrestricted parking

All roads indicated in Table 2.2 are under the care, control and management of Northern Beaches Council.

2.5.2 Surrounding Intersections

The existing intersections in the vicinity of the site are summarised in Table 2.3.

Table 2.3 Existing Intersections in the Vicinity of the Site

Intersection	Intersection Control
Warriewood Road / Brands Lane	Give-way T-Intersection
Brands Lane / Lorikeet Grove	Give-way T-Intersection
Warriewood Road / Macpherson Street	Give-way T-Intersection

² Warriewood Valley Roads Masterplan, 2018, Northern Beaches Council

https://www.northernbeaches.nsw.gov.au/sites/default/files/Warriewood_Valley_Roads_Masterplan.pdf - accessed 10/01/19

³ Warriewood Valley Roads Masterplan, 2018, Northern Beaches Council

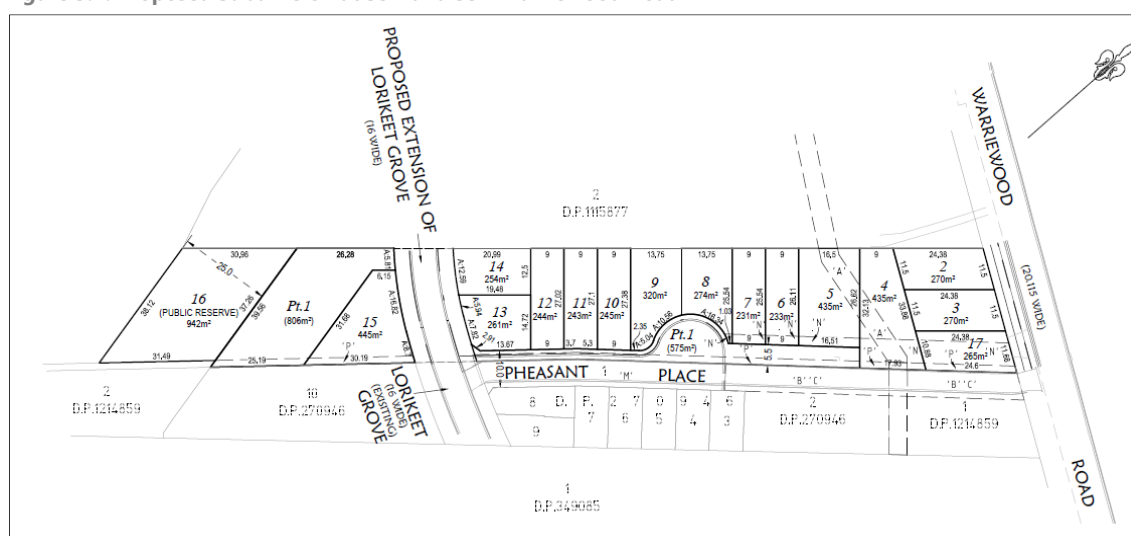
https://www.northernbeaches.nsw.gov.au/sites/default/files/Warriewood_Valley_Roads_Masterplan.pdf - accessed 10/01/19

3. Proposed Development

3.1 Land Uses & People Occupancy

The subject site is proposed to be subdivided into 17 lots (including 1 residue lot), together with demolition, drainage, earthworks and the extension of existing Lorikeet Grove and widening of existing Pheasant Place. Using the average household size in Warriewood of 2.86 from the 2016 Census, the proposed subdivision is expected to provide dwellings for approximately 43 residents. The proposed residential lots and land uses are indicated in Figure 3.1.

Figure 3.1: Proposed Subdivision at 53A and 53B Warriewood Road



3.2 Proposed Access Arrangements

The proposed development access for pedestrians, cyclists and vehicles are summarised in the following sections.

3.2.1 Proposed Temporary Access Conditions

Access to lots 2 and 3 would be directly from Warriewood Road. Until Lorikeet Grove is constructed to connect to Brands Lane or MacPherson Street, it is proposed that the pedestrian, cyclist and vehicle access to and from internal properties would be via an 8m wide shared easement that connects Warriewood Road to the private driveway. This easement would be located in lots 17 and 4 to 7.

The suitability of the proposed access arrangement is discussed in Section 4.1 and 4.2 of this report.

3.2.2 Proposed Ultimate Access Conditions

The subject site currently has access to Warriewood Road via a single driveway. It is proposed that residential lots 2, 3 and 17 will have driveways to provide direct pedestrian, cyclist and vehicle access to and from Warriewood Road.

Upon completion of Lorikeet Grove connecting to Brands Lane or Macpherson Street, it is proposed that pedestrians, cyclists and vehicles will have access to the internal properties on the subdivision via

Pheasant Place and a 5.5m wide shared private driveway from lots 4 to 7. Access to Pheasant Place would be through Lorikeet Grove via either Brands Lane or Macpherson Street.

The suitability of the proposed access arrangement is discussed in Section 4.1 and 4.2 of this report.

3.2.3 Service and Emergency Vehicle Access

As part of the subdivision development, a turning bulb is would be provided in Pheasant Place to allow service and emergency vehicles to enter and exit the site in a forward direction.

The suitability of the proposed service and emergency vehicle access arrangement is discussed in Section 4.3 of this report.

4. Assessment of Proposed Development

4.1 Active and Public Transport

The active and public transport aspects of the development are provided in the following sections.

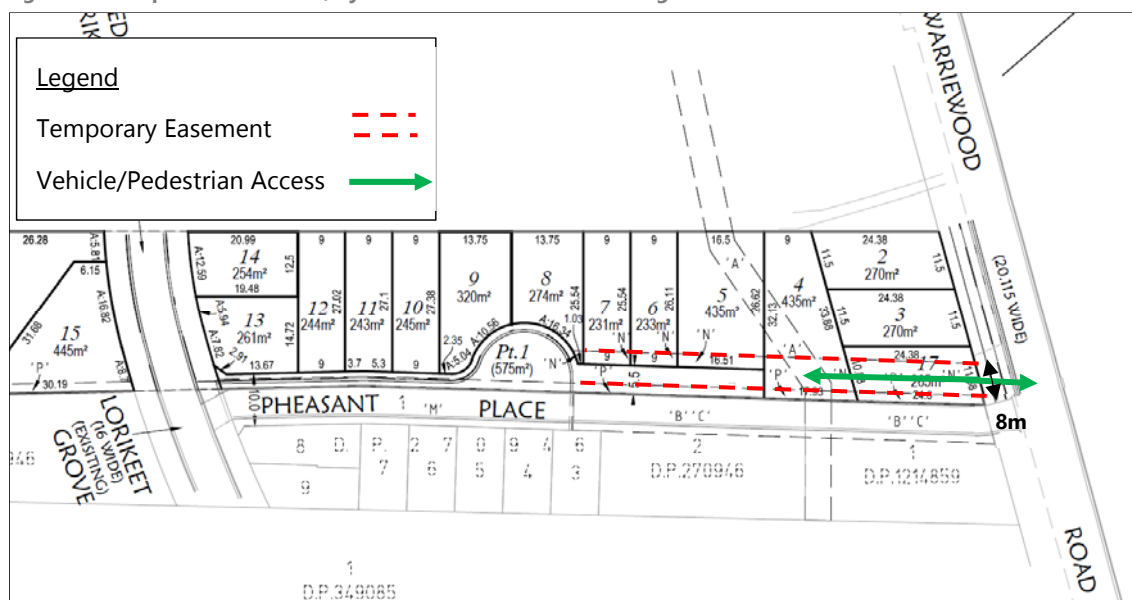
4.1.1 Pedestrian and Cyclist Subdivision Access

The proposed pedestrian and cyclist access arrangements are described in the following sections.

Temporary Access

In the interim, during the extension of Lorikeet Grove from Brands Lane to Macpherson Street, it is proposed that pedestrians and cyclists would access the internal subdivision properties via the temporary easement arrangement indicated in Figure 4.1.

Figure 4.1: Proposed Pedestrian, Cyclist and Vehicle Access During Lorikeet Grove Extension



The temporary easement indicated in Figure 4.1 is proposed to be an 8m wide shared easement. The provisions of clause C6.4 of P21 DCP 2014 indicate that a minimum carriageway width of 6m is required for a temporary road and that the safety of pedestrians and cyclists must not be compromised by the temporary road. In this case, 2m of extra road reserve width has been proposed to ensure adequate width for pedestrians and cyclists to enter and exit the subdivision.

The proposed temporary easement in lots 17 and 4 to 7 provides satisfactory access conditions for pedestrians and cyclists entering and exiting the subdivision in the interim. The design of the access would be completed at a later stage.

Ultimate Access

Upon completion of the Lorikeet Grove extension, pedestrian and cyclist access to internal properties within the subdivision would be via the access arrangement indicated in Figure 4.2.

Figure 4.2: Proposed Pedestrian, Cyclist and Vehicle Access Upon Completion of Lorikeet Grove Extension



Base map source: maps.google.com.au

The arrangement indicated in Figure 4.2 requires pedestrians and cyclists to access the internal properties on the subdivision via Pheasant Place and a 5.5m wide shared private driveway from lots 4 to 7. Access to Pheasant Place would be through Lorikeet Grove via either Brands Lane or Macpherson Street. A shared 1.2m wide path has been approved and constructed on the south-eastern side of Pheasant Place, with another 1.3m wide footpath proposed for the north-western side, allowing adequate passage for pedestrians and cyclists to and from Lorikeet Grove to the subject site properties. The proposed design of Pheasant Place is reviewed further in Section 4.2.3.

Access to Pheasant Place may improve in the future, as surrounding lots are developed, and new public roads are constructed which provide additional connections between Warriewood Road and Lorikeet Grove.

The proposed 5.5m wide shared private driveway is located amongst 4 properties from lots 4 to 7 in quiet traffic conditions. *AS2890.1-2004 Parking Facilities Part 1: Off-street car parking* indicates that a 5.5m wide driveway is required for 30 or more vehicle movements in a peak hour to allow two vehicles to pass. Therefore, 5.5m provides adequate space for pedestrians and cyclists to share the driveway with passing vehicles.

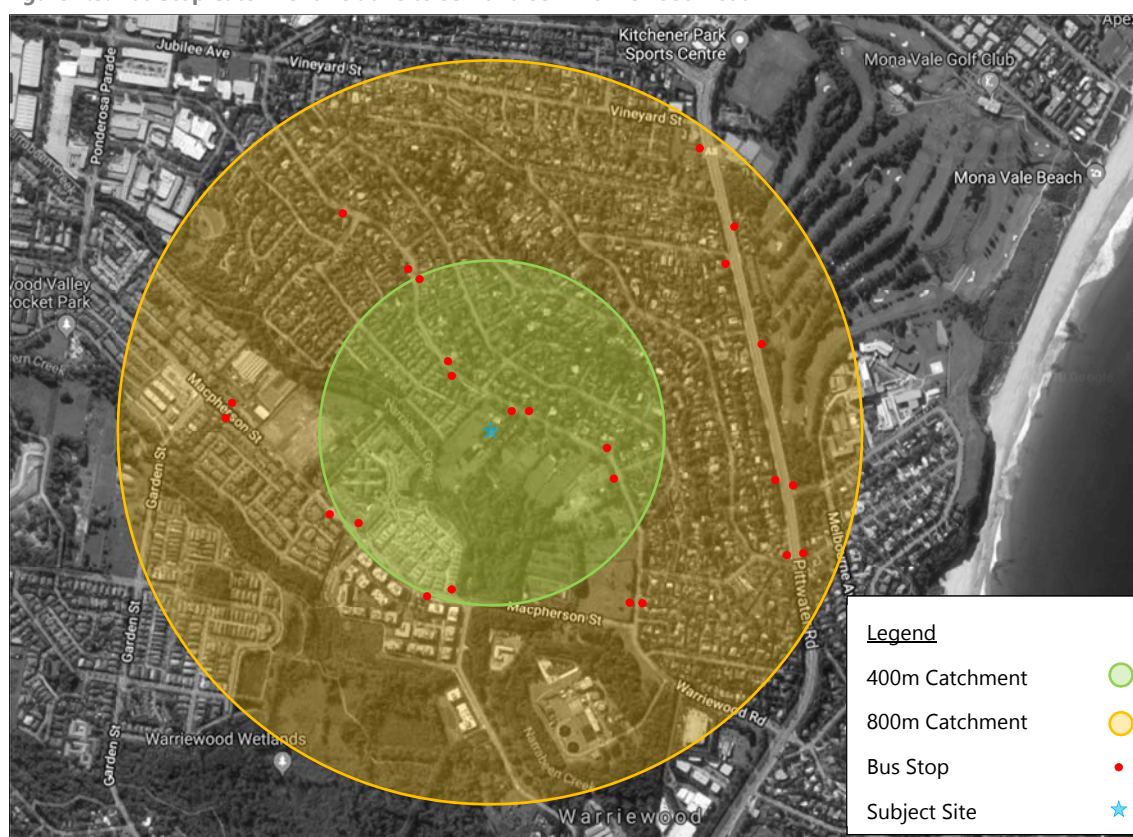
The proposed Pheasant Place and private access driveway from lots 4 to 7 provides satisfactory access conditions for pedestrians and cyclists entering and exiting the subdivision upon the completion of Lorikeet Grove.

4.1.2 Pedestrian Access to Public Transport

In the interim stages of development, internal property residents would have access to the nearby bus stops indicated in Section 2.4 via the temporary shared easement. Upon completion of the Lorikeet Grove extension and closing of the temporary easement, residents would access the Warriewood Road bus stops via Lorikeet Grove and either Brands Lane or Macpherson Street.

Transport for New South Wales' Planning Guidelines for Integrated Transport in the Sydney Metropolitan Area indicates that 90% of households must be within 400 metres (as the crow flies) of a bus stop, and within 800 metres (as the crow flies) of intermediate level bus stops that provide express services in peak periods and all-stop all day services⁵. The 400m and 800m catchments are indicated in Figure 4.3.

Figure 4.3: Bus Stop Catchment Relative to 53A and 53B Warriewood Road



⁵ Integrated Public Transport Service Planning Guidelines – Sydney Metropolitan Area, December 2013, Transport for New South Wales <https://www.transport.nsw.gov.au/sites/default/files/media/documents/2017/integrated-pt-service-planning-guidelines-sydney-metro-dec-2013.pdf> - Accessed 08/01/19

Base map source: maps.google.com.au

Figure 4.3 demonstrates that 9 bus stops are within 400m and 16 bus stops are within 400m to 800m for residents of the proposed subdivision. Based on the requirements of Transport for New South Wales, the proposed pedestrian access to public transport is considered satisfactory.

4.1.3 Cycling Facilities

Northern Beaches Council are currently in the process of adopting the 'Move' transport strategy, with the main goal of encouraging cycling by providing improved facilities in the future. The proposed cycling routes from the Warriewood Valley Landscape Masterplan (2018) are indicated in Figure 4.4.

Figure 4.4: Future Cycling Facilities (Warriewood Valley Landscape Masterplan)

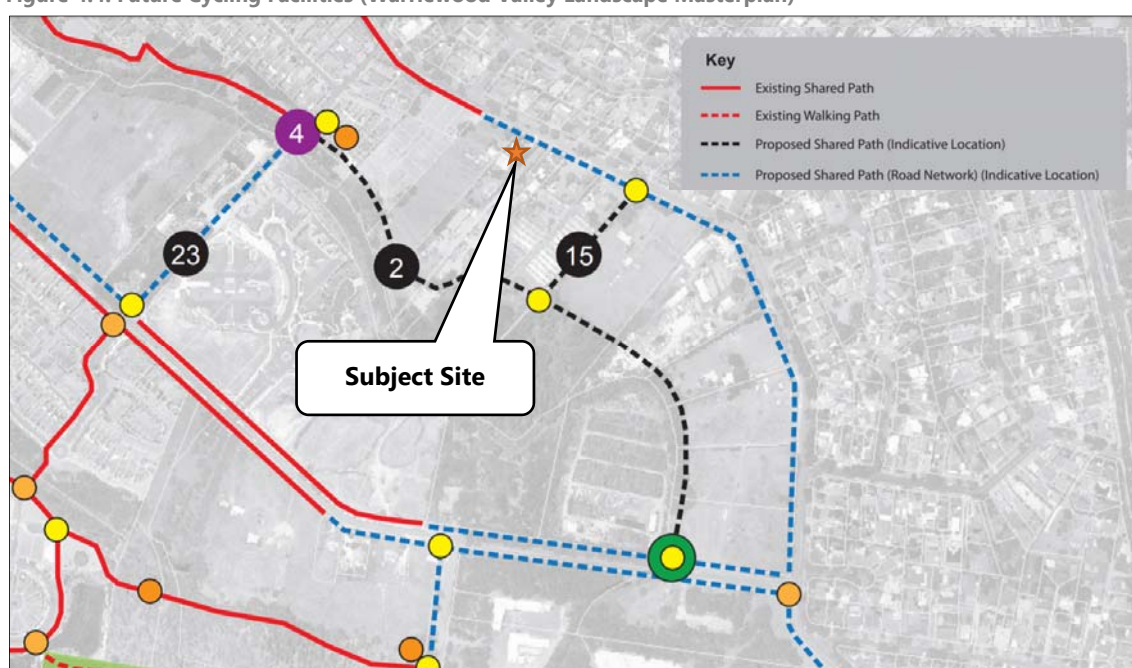


Figure 4.4 indicates that shared paths are proposed for the length of Warriewood Road, improving cycling facilities in the vicinity of the subject site.

4.2 Vehicle Access

The proposed vehicle access is assessed in the following sections.

4.2.1 Temporary Access

In the interim, during the extension of Lorikeet Grove from Brands Lane to Macpherson Street, it is proposed that vehicles will access the internal subdivision properties via the 8m wide temporary easement arrangement indicated in Figure 4.1.

The provisions of clause C6.4 of P21 DCP 2014 indicate that a temporary road is to cater for no greater than 300 vehicles per day and have a minimum carriageway width of 6m. It is proposed that in the interim, the temporary easement will provide access for 11 residential dwellings (construction of lots 4 and 17 will be delayed until completion of the Lorikeet Grove extension and the temporary easement is closed). Using a daily generation rate of 10.7 vehicle movements / dwelling, the 11 dwellings will

generate approximately 118 vehicle movements / day. This falls under the 300 vehicles per day limit for temporary easement operation, as outlined in the DCP. The proposed temporary easement also provides a 6m wide carriageway, in addition to the 2m wide shared space for pedestrians and cyclists, meeting the DCP requirements for a temporary road.

Based on the above, the proposed temporary easement in lots 17 and 4 to 7 provides satisfactory access conditions for vehicles entering and exiting the subdivision in the interim.

4.2.2 Ultimate Access

The proposed vehicle access under ultimate conditions are assessed in the following sections.

Properties on Warriewood Road

For lots 2, 3 and 17, driveways are proposed for access to Warriewood Road. Figure 4.5 indicates the approximate sightlines from the proposed driveways on Warriewood Road.

Figure 4.5: Warriewood Driveway Sightlines



Base map source: maps.google.com.au

Figure 4.5 indicates that drivers exiting these residential lots will have a sight line of approximately 155m to the left and 220m to the right which exceeds the required sight line of 69m for a 50 km/h road, as is outlined in Figure 3.2 of *AS2890.1-2004 Parking Facilities Part 1 Off-street car parking*. A sightline of 69m also meets the provisions of clause C6.4 of P21 DCP 2014, where sightlines of 50 metres are required for a 50 km/h road. Drivers exiting the proposed driveways would have adequate vision of traffic on both sides of Warriewood Road, as the road is straight, and the view is unobstructed.

There is already an existing driveway in the approximate location of lot 17. The addition of driveways for lots 2 and 3 is consistent with the character of the street. In addition, the 2 additional driveways are not expected to impact existing bus service conditions at the bus stop outside 53A and 53B

Warriewood Road (stop id: 210240). In the peak periods, a bus stops approximately every 15 minutes, providing ample time for vehicles to exit and enter a driveway between each service.

The proposed driveway locations for lots 2 and 3 would be determined as part of the detailed design stage of the project and should not impact bus stop operation.

The proposed access driveways from lots 2, 3 and 17 to Warriewood Road provide satisfactory access conditions for vehicles entering and exiting the subdivision.

Internal Properties

Upon completion of the Lorikeet Grove extension, vehicle access to internal properties within the subdivision would be via the access arrangement indicated in Figure 4.2.

The arrangement indicated in Figure 4.2 requires vehicles to access the internal properties on the subdivision via Pheasant Place and a 5.5m wide shared private driveway from lots 4 to 7. Access to Pheasant Place would be through Lorikeet Grove via either Brands Lane or Macpherson Street. A 7.5m wide carriageway is proposed for Pheasant Place, allowing adequate passage for vehicles to and from Lorikeet Grove. The design of Pheasant Place is reviewed further in Section 4.2.3.

Access to Pheasant Place may improve in the future, as surrounding lots are developed, and new public Roads are constructed to provide additional connections between Warriewood Road and Lorikeet Grove.

The 5.5m wide shared private driveway provides access to lots 4 to 7 only. *AS2890.1-2004 Parking Facilities Part 1: Off-street car parking* indicates that a 5.5m wide driveway is required for 30 or more vehicle movements in a peak hour to allow two vehicles to pass. Therefore, 5.5m would provide adequate space for vehicles to access residential dwellings on lots 4 to 7.

Based on the above, the proposed Pheasant Place and private access driveway from lots 4 to 7 provides satisfactory access conditions for vehicles entering and exiting the subdivision upon the completion of Lorikeet Grove.

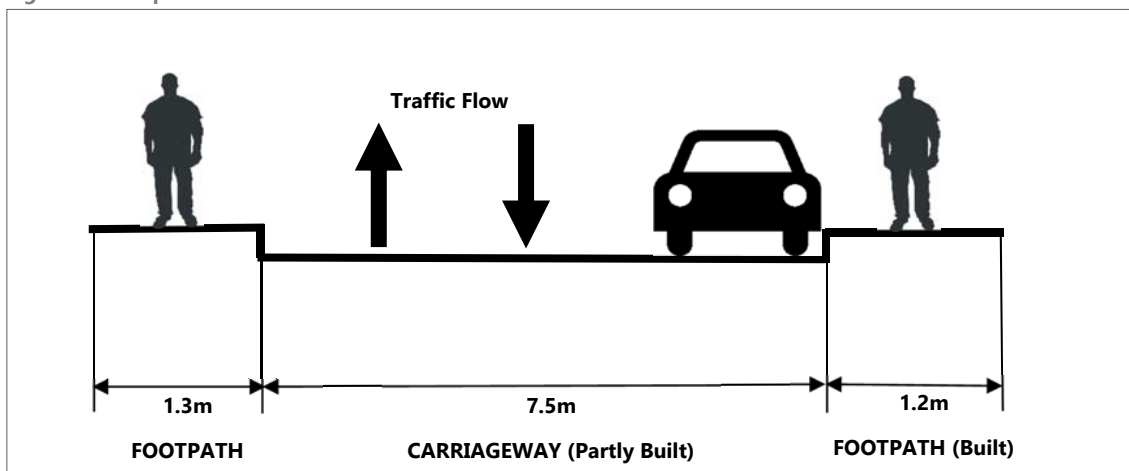
4.2.3 Pheasant Place Road Design

Pheasant Place has been classified by Northern Beaches Council as an 'Access Street.' According to the Warriewood Valley Roads Masterplan, guidelines for an Access Street suggest a total width of 12.5m, with 7.5m of carriageway and 2.5m of road verge on either side for a footpath and street trees.

The proposed subdivision development has planned Pheasant Place with a total road reserve width of 10m. Of this 10m, 1.2m of footpath and 6m of carriageway have already been approved and constructed, with 1.5m remaining for extra carriageway widening and 1.3m for a footpath on the opposite side.

The total proposed 10m road reserve for Pheasant Place is indicated in Figure 4.6.

Figure 4.6: Proposed Pheasant Place Cross-Section



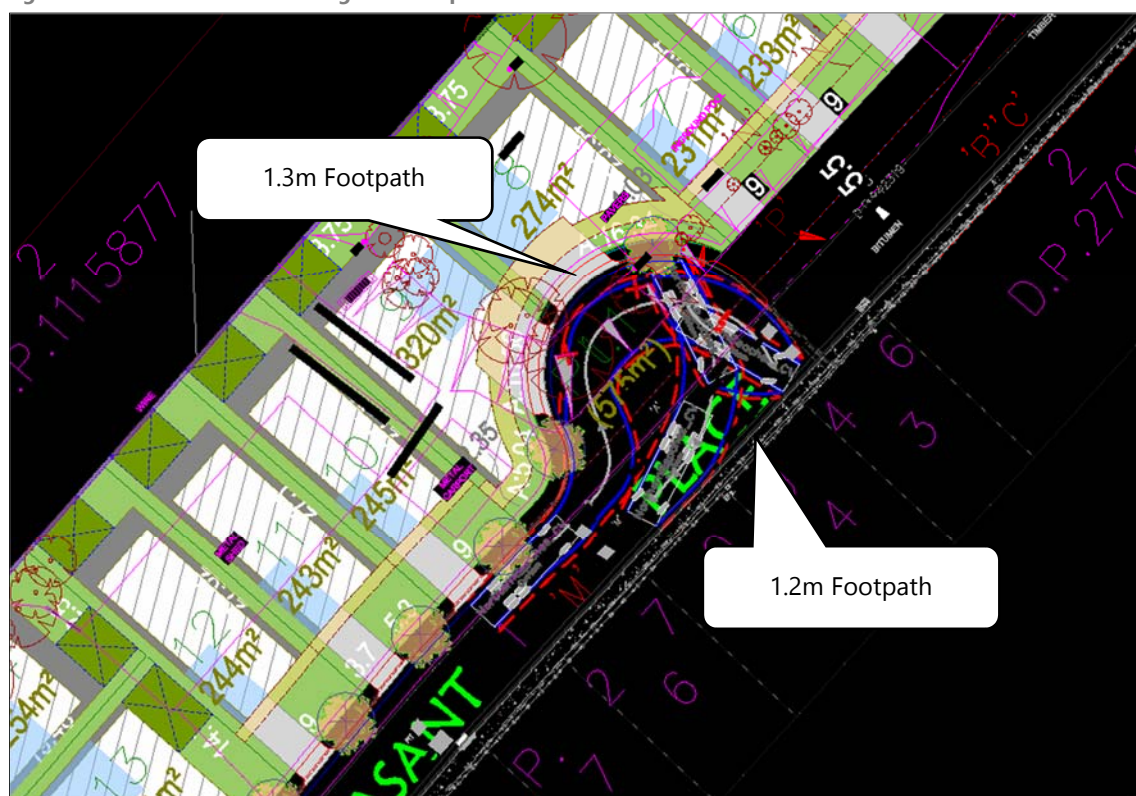
By providing an extra footpath on the north-western side of Pheasant Place, pedestrian access to and from the proposed subdivision is improved.

The proposed Pheasant Place roadway design meets footpath and carriageway suggestions outlined in the Warriewood Valley Roads Masterplan, and provides satisfactory access conditions for pedestrians, cyclists and vehicles entering and exiting the subdivision.

4.3 Service and Emergency Vehicle Access

As part of the subdivision development, a turning bulb is proposed in Pheasant Place to allow service and emergency vehicles to enter and exit the development in a forward direction. The turning bulb is indicated in Figure 4.7. The total proposed 10m road reserve for Pheasant Place is indicated in Figure 4.6.

Figure 4.7: Pheasant Place Turning Bulb Swept Path



To create the swept path indicated in Figure 4.7, the typical dimensions of Northern Beaches Council's waste collection vehicle were obtained from the Northern Beaches Council Waste Management Plan (2016). The proposed turning bulb provides satisfactory space for waste collection and other service vehicles to successfully perform a 3-point turn and enter and exit Pheasant Place in a forward direction. Section 7.2 Clause A and Clause B of the Northern Beaches Council Waste Management Plan (2016) state that for private roadway developments, vehicles must be able to enter the site in a forward direction and should only be expected to make a three-point turn to complete a U-turn. Based on the above, the proposed turning bulb arrangement is considered satisfactory. To facilitate the turn, it is recommended that No Parking restrictions are implemented in the turning bulb.

5. Operational Impacts

5.1 Trip Generation

Traffic generation estimates for the proposed subdivision have been sourced from RMS' August 2013 Updated Guide to Traffic Generating Developments for low density residential dwellings.

Having consideration to the size of dwellings and their location, Table 5.1 sets out the estimated traffic generation estimates for both peak hour and daily periods under temporary and ultimate access scenarios.

Table 5.1: Estimated Development Traffic Generation

Temporary Access Arrangement					
Access	No. of Dwellings	Design Generation Rates		Traffic Generation Estimates	
		Peak Hour	Daily	Peak Hour	Daily
To/from subdivision	13	0.99 vehicle movements / dwelling	10.7 vehicle movements / dwelling	13 vehicle movements / hour	139 vehicle movements / day
Ultimate Access Arrangement					
To/from subdivision	15	0.99 vehicle movements / dwelling	10.7 vehicle movements / dwelling	15 vehicle movements / hour	161 vehicle movements / day

Table 5.1 indicates that in the temporary scenario, the proposed development could be expected to generate approximately 139 vehicle movements per day and 13 vehicle movements during each respective peak hour on a typical weekday. A temporary easement is proposed to be located in lot 4 and 17 which would be constructed later.

Upon completion of the full proposed development, approximately 161 vehicle movements per day and 15 vehicle movements during each respective peak hour on a typical weekday are expected.

The variance in the subject site's traffic generation at each development stage is summarised in Table 5.2.

Table 5.2: Estimated Development Traffic Generation at Each Development Stage

Movements for Dwellings		Development Stage			
		Temporary		Ultimate	
Residential Dwellings on Pheasant Place	Movements / Hour	11 (subject site), 5 (adjacent)	16	9 (subject site), 5 (adjacent)	14
	Movements / day		171		150
Residential Dwellings on Warriewood Road	Movements / Hour	2	2	3	3
	Movements / day		21		32
Residential Dwellings on Lorikeet Grove	Movements / Hour	0	0	3	3
	Movements / day		0		32
Total	Movements / Hour	18	18	20	20
	Movements / day		193		214

Table 5.2 indicates that in the interim, 16 vehicles are proposed to use Pheasant Place in the peak hour until Lorikeet Grove is completed. This includes 11 vehicle movements generated by lots 5 to 15 on the subject site and 5 vehicle movements generated by the adjacent site (5 residential dwellings). A total of approximately 171 vehicle movements generated by both sites are expected to utilise Pheasant Place each day.

Table 5.2 also indicates that upon completion of the proposed development, 14 vehicles are expected to use Pheasant Place in the peak hour. This includes 9 vehicle movements generated by the subject site and 5 vehicle movements generated by the adjacent site. A total of approximately 150 vehicle movements generated by both sites are expected to utilise Pheasant Place each day.

During both stages of development, traffic generation is below the 300 vehicles per day which is the target limit for 'Access Streets', as outlined in the Warriewood Valley Roads Masterplan (2018).

5.2 Anticipated Transport Impact

Based on the anticipated traffic generation of the site in temporary and ultimate conditions, the additional traffic generated by the proposed development are not expected to compromise the safety or function of the surrounding road network.

In addition, the use of the temporary easement, Lorikeet Grove, Brands Lane and MacPherson Street and Warriewood Road by vehicles accessing residential uses which abut them is entirely appropriate and consistent with their functional role in the road network.

6. Conclusions

Based on the analysis and discussions presented within this report, the following conclusions are made:

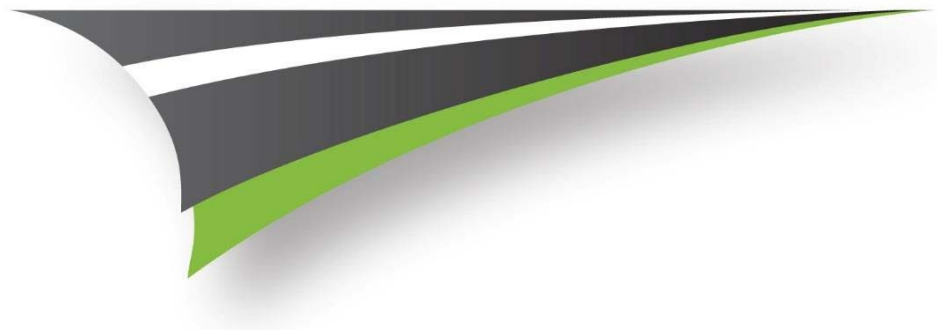
- (1) The site is expected to generate up to 13 and 139 vehicle movements in any peak hour and daily respectively in interim conditions.
- (2) The site is expected to generate up to 15 and 161 vehicle movements in any peak hour and daily respectively in ultimate conditions.
- (3) The subject site and adjacent site are expected to generate 171 vehicle movements each day on Pheasant Place in temporary conditions, satisfactorily meeting the maximum traffic volume for an 'Access Street' of a maximum of 300 vehicles per day.
- (4) The subject site and adjacent site are expected to generate 150 vehicle movements each day on Pheasant Place in the ultimate conditions, satisfactorily meeting the maximum traffic for an 'Access Street' of a maximum of 300 vehicles per day.
- (5) The additional traffic generated by the proposed development is not expected to compromise the safety or function of the surrounding road network.
- (6) The proposed temporary easement in lots 17 and 4 to 7 provides satisfactory access conditions for pedestrians, cyclists and vehicles entering and exiting the subdivision in the interim.
- (7) The proposed Pheasant Place and private access driveway from lots 4 to 7 provides satisfactory access conditions for pedestrians, cyclists and vehicles entering and exiting the subdivision upon the completion of Lorikeet Grove.
- (8) There would be appropriate sight distance in accordance with AS2890.1:2004 to and from the proposed access driveways from lots 2, 3 and 17 to Warriewood Road which would provide satisfactory access conditions for vehicles entering and exiting the lots.
- (9) Based on the requirements of Transport for New South Wales, the proposed pedestrian access to public transport is considered satisfactory.
- (10) The proposed Pheasant Place roadway design meets the footpath and carriageway suggestions outlined in the Warriewood Valley Roads Masterplan, and provides satisfactory access conditions for pedestrians, cyclists and vehicles entering and exiting the subdivision.
- (11) The proposed turning bulb provides space for waste collection and other service vehicles to successfully perform a 3-point turn and enter and exit Pheasant Place in a forward direction, satisfactorily meeting the access guidelines outlined in Section 7.2 Clause A and Clause B of Northern Beaches Council Waste Management Plan (2016). To facilitate the turn, it is recommended that No Parking restrictions are implemented in the turning bulb.

6.1 References

In preparing this report, reference has been made to the following:

- ◆ Pittwater LEP 2014
- ◆ Pittwater 21 DCP 2014
- ◆ Pre-Lodgement Council Meeting Minutes (18/09/2018)
- ◆ Plans for the proposed development prepared by Craig & Rhodes, Drawing Number 076-18P i04, Revision 02, dated 05 September 2018
- ◆ other documents and data as referenced in this report.

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