GTAconsultants

Oatley RAC Development
Planning Proposal
Transport and Access Assessment

Client // Georges River Council
Office // NSW
Reference // 16S1340000
Date // 29/09/16

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Quality Record

Issue	Date	Description	Prepared By	Checked By	Approved By	Signed
A	05/05/16	Final	Andrian Juric Ashish Modessa	Ashish Modessa	Brett Maynard	Brett Maynard
B	07/09/16	Final – minor amendments	Andrian Juric Ashish Modessa	Ashish Modessa	Brett Maynard	Brett Maynard
C	29/09/16	Final – additional amendments	Andrian Juric Ashish Modessa	Ashish Modessa	Brett Maynard	

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1. Introduction

1.1 Background

Demographic trends indicate a growing need for seniors housing within the Hurstville Local Government Area (LGA). To help address this need it is proposed to rezone a site located at River Road South, Oatley for seniors housing uses. The proposed site is located on Council land currently occupied by the former Oatley Bowling Club.

Georges River Council (formerly Hurstville City Council) seeks to maximise the utility of the land under their ownership. This outcome is constrained by both the available land, the capacity of the site access and broader road network in the vicinity of the site.

The site is approximately 11,000m^2 in size, of which some 2,000m^2 is suitable for senior housing and the remainder of the site could be used for ancillary facilities including car parking. It is understood that Council's intention is that some limited car parking for Myles Dunphy Reserve users is also provided on-site.

GTA Consultants was commissioned by Georges River Council to undertake a transport and access assessment for the Planning Proposal.

1.2 Purpose of this Report

It is understood that there is currently no site layout plan or development yields for the Planning Proposal, such as number of residential units or dwellings. As such, this report focuses on the suitability of existing infrastructure for the proposed land uses, including consideration of the following:

i existing traffic and parking conditions surrounding the site
ii car parking requirements
iii service vehicle requirements
iv pedestrian and bicycle requirements
v suitability of the access arrangement for the site
vi the transport impact of the Planning Proposal on the surrounding road network.

1.3 References

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

- an inspection of the site and its surrounds
- Hurstville Council Development Control Plan (DCP)
- Hurstville Council Local Environment Plan (LEP) 2012
- Australian Standard/ New Zealand Standard, Parking Facilities, Part 1: Off-Street Car Parking AS/NZS 2890.1:2004
- traffic surveys undertaken by Matrix Traffic and Transport Data as referenced in the context of this report
- other documents and data as referenced in this report.

2. Existing Conditions

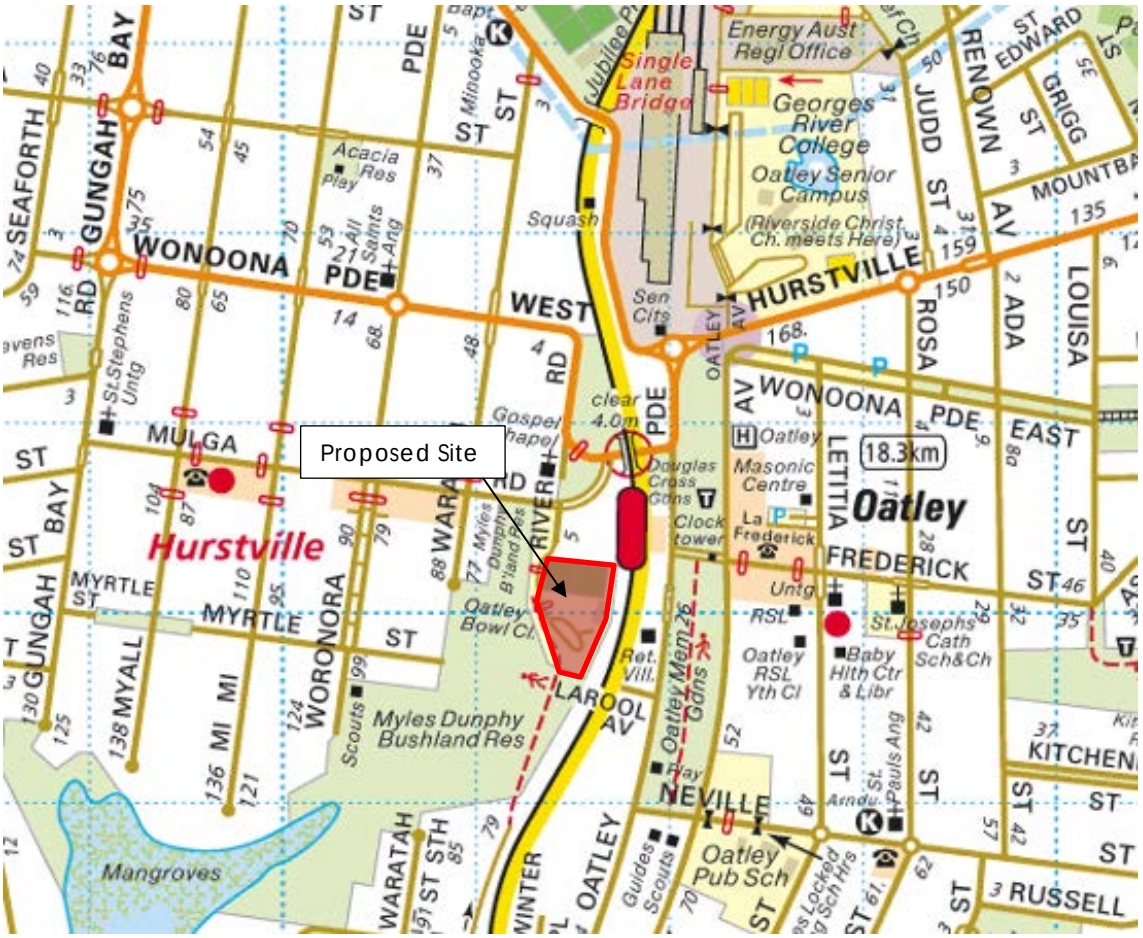
2.1 Site Context

2.1.1 Site Location

The site is located at the former Oatley Bowling Club. It is approximately 150m west of Oatley Railway Station and 18km southwest of the Sydney CBD. It is accessible via River Road (referred to as River Road South in this report) which is accessed from Mulga Road.

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

Figure 2.1: Subject Site and Its Environs



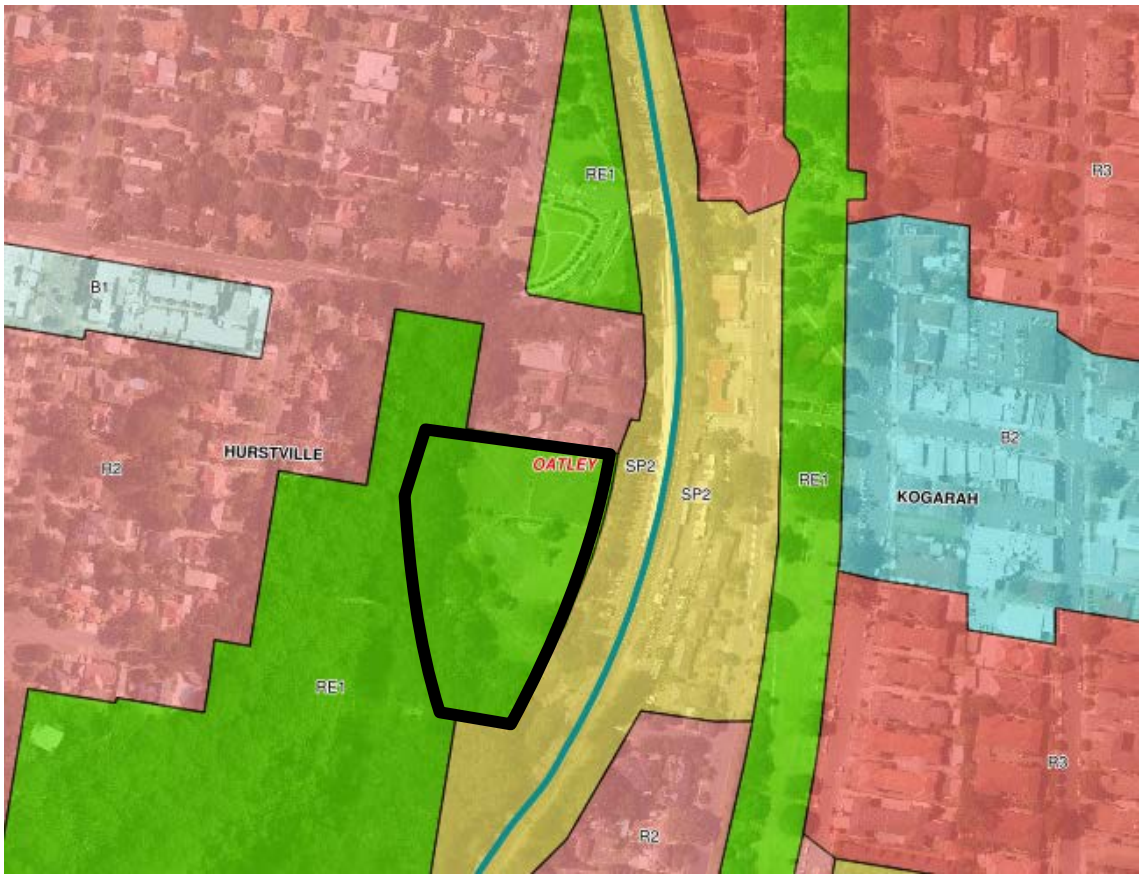
Basemap source: Sydway Publishing Pty Ltd

2.1.2 Land Zoning

The proposed site is currently located on land zoned RE1 – Public Recreation. The site is currently occupied by disused bowling greens, with the southern end of the site consisting primarily of vacant land.

The surrounding sites are predominantly low density detached residential dwellings, with a bushland reserve immediately to the west and south of the site. The zoning of the proposed site and surrounding sites is shown in Figure 2.2.

Figure 2.2: Land Zoning

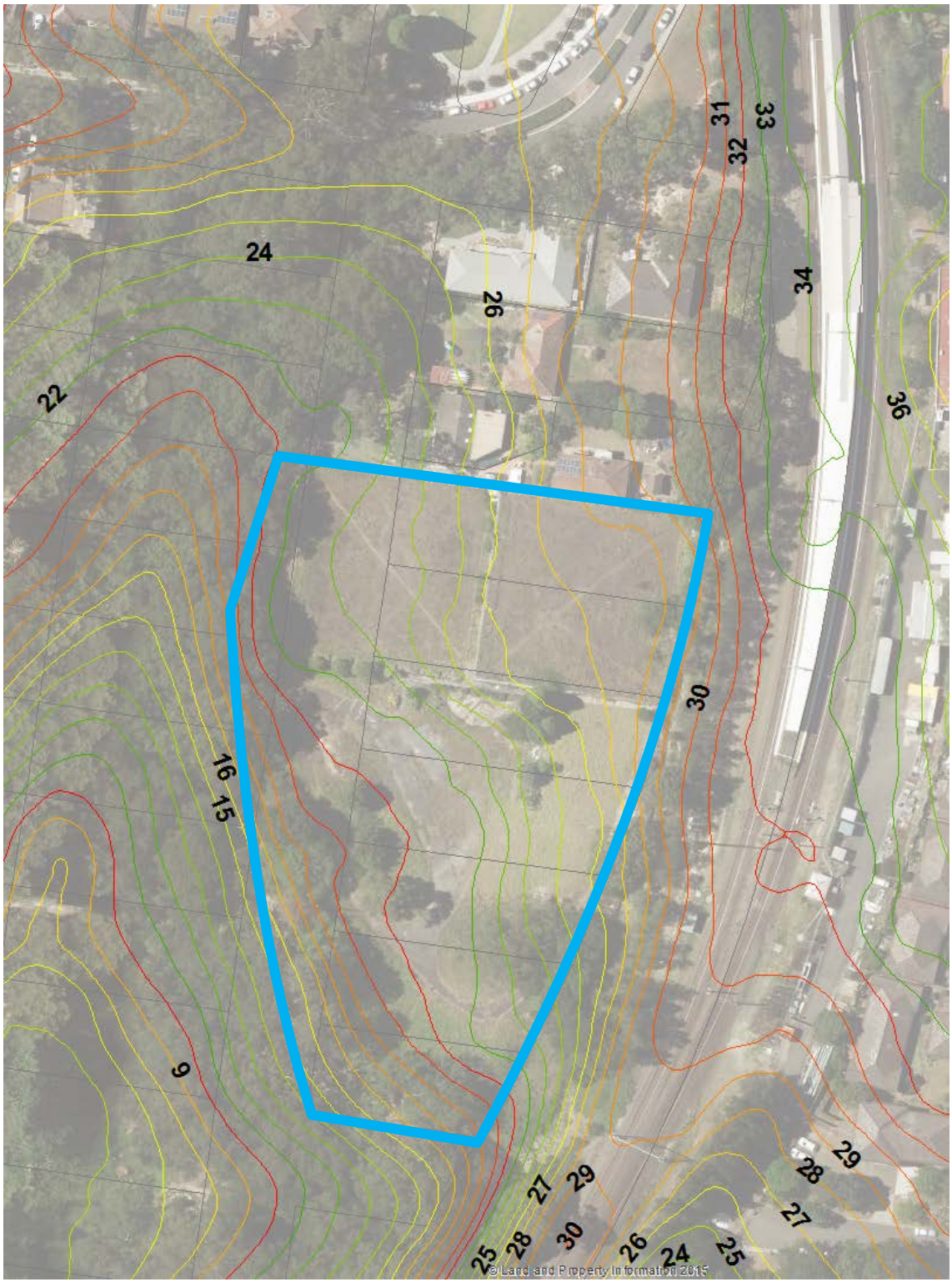


Source: NSW Department of Planning and Environment accessed 14/04/16 (www.planningportal.nsw.gov.au/)

2.1.3 Topography

A review of the existing topography along River Road South and Mulga Road has been undertaken, as shown in Figure 2.3. Contour data indicates that there is a level difference of 4m along River Road South over a length of 40-45m.

Figure 2.3: Site Topography - 1m Contours



2.2 Road Network

River Road

River Road functions as a local road and is aligned in an east-west direction to the north of Mulga Road. It is a two-way road configured with a two-lane, 12m wide carriageway. Kerbside parking is permitted on both sides of the road, to the west of Mulga Road. River Road is shown in Figure 2.4 and carries approximately 3,350 vehicles per day[1] (west of Mulga Road) and 7,650 vehicles per day[1] (east of Mulga Road).

To the south of Mulga Road, River Road South functions as an accessway and is aligned in a north-south direction serving the site and three detached residential dwellings. It is only suitable for two-way, one-lane traffic flows as shown in Figure 2.4 and Figure 2.5.

Mulga Road

Mulga Road functions as a local collector road and in the vicinity of Oatley Station is aligned in a north-south direction, running adjacent to the rail line on its western side before heading west toward Gungah Bay Road. It is a two-way road configured with a two-lane, 13m wide carriageway. From River Road, the carriageway is divided by a central median that ends at River Road South. Kerbside parking is permitted on both sides of the road, to the south of River Road. Mulga Road is shown in Figure 2.6 and Figure 2.7 and carries approximately 5,300 vehicles per day[2].

Figure 2.4: River Road (north of Mulga Road)

Figure 2.5: River Road South (site access)

[1] Based on the peak hour traffic counts completed in February 2016 and assuming a peak-to-daily ratio of 8% based on Mulga Road 7-day traffic counts.

[2] Based on 7-day traffic counts completed in February 2016.

Figure 2.6: Mulga Road (looking south from River Road)

Figure 2.7: Mulga Road (looking west from River Road South)

2.3 Car Parking

A review of publicly available car parking within 100m of the site indicates that 17 spaces along Mulga Road and 13 spaces along River Road are available for unrestricted, on-street parking. The on-street car parking was observed to be at capacity during a morning site visit, with the demand largely generated by commuter parking activity associated with the railway station.

2.4 Public Transport

2.4.1 Rail

The site is located approximately 150 metres southwest (or within a 2 minute walk) of Oatley Railway Station. Oatley Station is located on the Illawarra line. Oatley acts as a suburban station and is largely served by trains at a frequency of 20 minutes during off peak times, increasing to a frequency of between 5 and 15 minutes during peak periods.

2.4.2 Bus

Bus route 955 operates along Mulga Road, linking the area with Mortdale and Hurstville, with hourly services during the day.

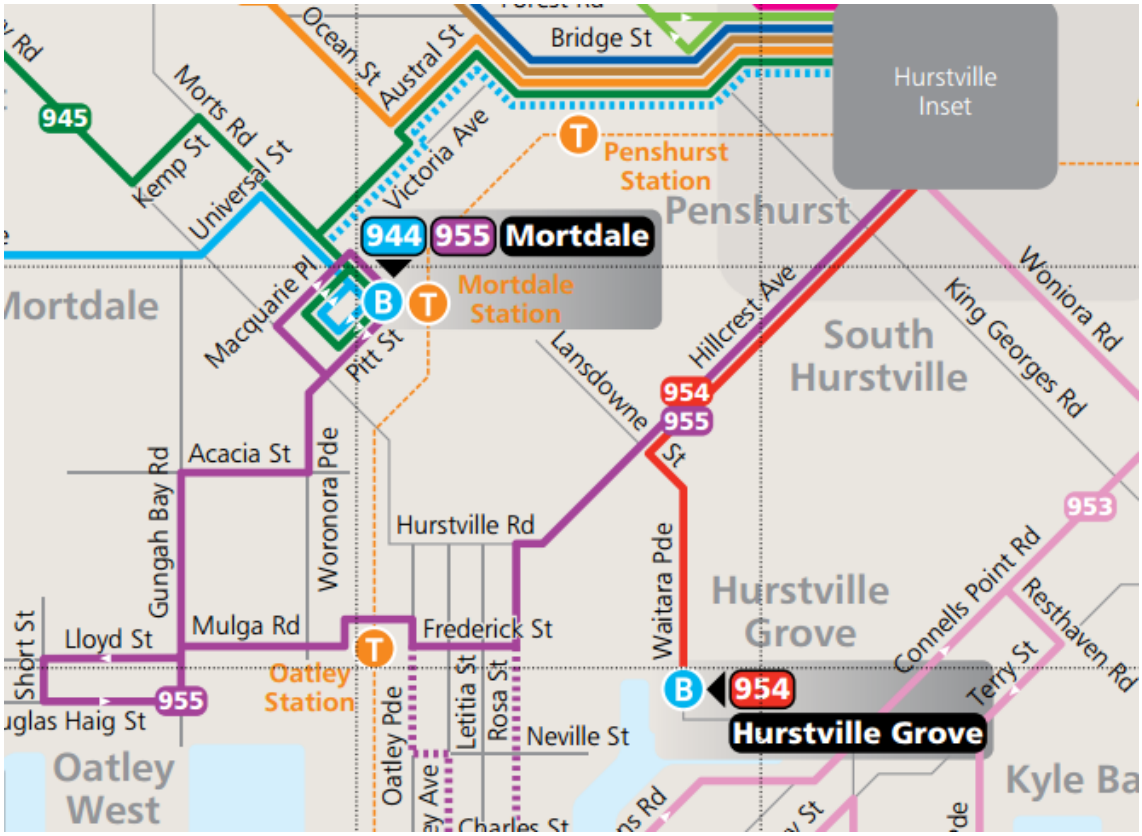
A review of the public transport available in the vicinity of the site is summarised in Table 2.1.

Table 2.1: Public Transport Provision

Service	Route #	Route Description	Distance to Nearest Stop	Frequency On/Off Peak
Bus	955	Mortdale to Hurstville	0-120m	Hourly
Train	T4	Illawarra Line	160m	5-15min/20min

Figure 2.8 shows the public transport network surrounding the site.

Figure 2.8: Public Transport Network Map



Source: Punchbowl Bus Co accessed February 2016 (http://www.punchbowlbus.com.au/pdf/networkmap.pdf)

2.5 Pedestrian Infrastructure

Sealed pedestrian footpaths are located on most roads in the immediate vicinity of the subject site. A vast majority are approximately 1.2metres wide, although adjacent to street poles, the width is constrained. Pertinently, footpaths are provided to local points of interest including bus stops, train stations, shopping centres and local parks; all within a 2 minute walk from the site. There are some instances where footpaths are only available on one side of local roads.

Pedestrian paths are located as follows:

- River Road South (east side) – 1.2m wide path providing access to Mulga Road
- Mulga Road (both sides) – 1.2m wide path providing access to Oatley West Shopping Centre, Oatley Village Shopping Centre, bus stops and Oatley train station.

The width and gradient of the existing footpaths is shown in Table 2.2.

Table 2.2: Existing Footpath Details

Road	Side of Road	Width	Gradient
River Road	South	1.2m - 1.5m	0% - 5%
Mulga Road	East	1.2m	0% - 5%
Mulga Road	West	1.2m	0% - 5%
River Road South	East	1.2m	1% – 15%

Figure 2.9: Mulga Road

Figure 2.10: River Road South

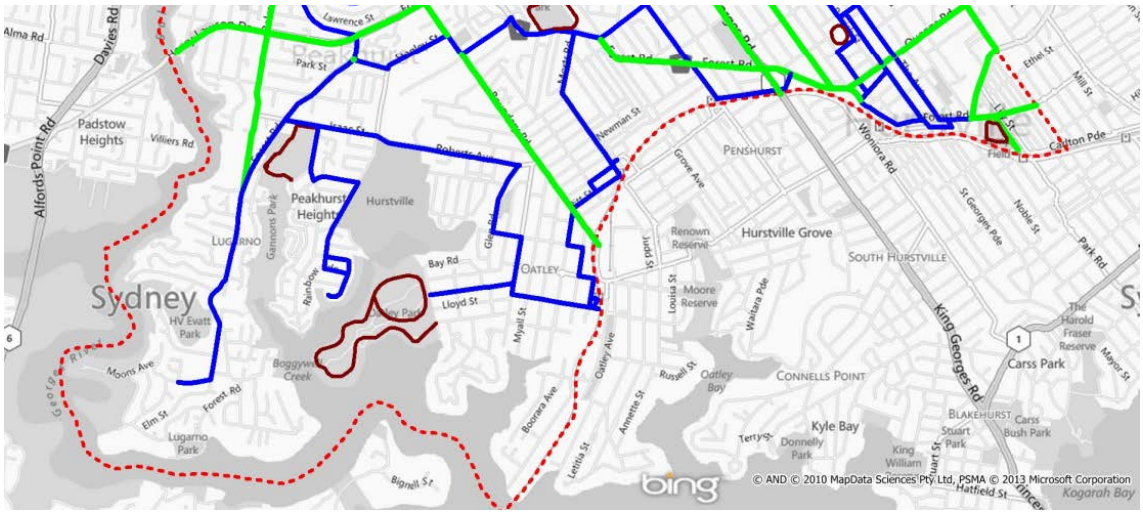
Oatley Railway Station is currently being upgraded with new lift and stair access to the station from Oatley Parade and Mulga Road, as well as a new pedestrian footbridge across the railway line. The upgrades will significantly improve accessibility for people with disabilities; a key factor in determining the suitability of the subject site for the intended seniors housing uses.

2.6 Cycle Infrastructure

Whilst no separated cycling infrastructure exists in the vicinity of the proposed site, Mulga Road is outlined by Georges River Council as an on-road bike route. This bike route, shown in Figure 2.11, is largely oriented towards Oatley Park, which is used extensively by road cyclists as a training and racing facility. A desktop review of streets surrounding the site shows a number of cyclists on these streets.

Council documentation notes that *"On-road cycle paths in Hurstville City are identified by logos painted on various roads on the left of the edge line and the presence of signage warning motorists and pedestrians to 'Watch for Cyclists'."*

Figure 2.11: Hurstville Cycleways



Source: Georges River Council accessed February 2016 (http://www.hurstville.nsw.gov.au/Cycleways.html)

3. Accessibility Assessment

3.1 Requirements

3.1.1 Disability Discrimination Act (1992)

The Disability Discrimination Act 1992 (DDA) states that it is unlawful for a person to discriminate against another person on the ground of the other person's disability, including in relation to the provision of means of access to such premises. That is, a person with a disability must be able to access any building that the public is allowed to enter or use, and to have access to any goods, services or facilities.

The DDA does not include technical specifications about how to provide equitable access to buildings. These details are included in the Australian Standard for the design of Access and Mobility.

3.1.2 AS 1428.1 and 1428.2 – Design for Access and Mobility

The objective of AS1428.1 is to provide the minimum design requirements for new building work, to enable access for people with disabilities and AS1428.2 sets outs the requirements for the design of buildings and facilities for access for people with disabilities, which are enhanced from the minimum requirements, where appropriate.

A summary of the requirements that are relevant to the design of footpaths is provided in the following sections.

General Requirements

Accessways, walkways, ramps and landings shall have:

- the minimum clear width of a path of travel shall be 1.2 metres
- an unobstructed vertical clearance of not less than 2.0 metres, and the gradients and crossfalls of the surface area within a landing or circulation space shall not exceed 1:40.
- In outdoor conditions, walkways, ramps and landings shall be designed so that water does not accumulate on surfaces.

Continuous Accessible Path of Travel

Accessible paths of travel within the boundary of the site shall be provided from transportation stops, accessible parking and accessible passenger loading zones, and public streets or walkways to the accessible building entrance they serve.

Walkways

Walkways shall be provided with landings, at intervals not exceeding the following:

- For walkway gradients of 1 in 33 – 25 metres.
- For walkway gradients of 1 in 20 – 15 metres.
- For walkway gradients between 1 in 33 and 1 in 20, at intervals which shall be obtained by linear interpolation.

Note: Landings are not required where walkway gradients are flatter than 1 in 33.

- The gradient of walkways between landings shall be constant.

- The intervals in Item may be increased by 30% where at least one side of a walkway is bounded by a kerb and a handrail or a wall and a handrail.
- If no kerb and handrail or wall and handrail are provided, the ground abutting the side of the walkway shall follow the grade of the walkway and extend horizontally for 600mm.

Ramps

The requirements for the design and construction of ramps are as follows:

- The maximum gradient of a ramp exceeding 1.52 metres in length shall be 1 in 14.
- Ramps shall be provided with landings at the bottom and at the top of the ramp and at intervals not exceeding the following:
  - For ramp gradients of 1 in 14 – 9 metres
  - For ramp gradients of 1 in 20 – 15 metres
  - For ramp gradients between 1 in 20 and 1 in 14, at intervals that shall be obtained by linear interpolation.
- The gradient of ramps between landings shall be constant.
- Ramps shall be provided with handrails on both sides of the ramp.
- Ramps and landings at intermediate levels shall have kerbs or kerb rails on both sides, which comply with the following:
  - The minimum height above the finished floor shall be 65mm
  - The height of the top of the kerb or kerb rail shall not be within the range 75mm to 150mm above the finished floor
  - There shall be no longitudinal gap or slot greater than 20mm in the kerb or kerb rail within the range 75mm to 150mm above the finished floor.

  Note: The top of the kerb or a gap or slot greater than 20mm is not permitted in the range 75mm to 150mm, to preclude the possibility of the footplate riding over the kerb or becoming trapped.
- Kerbs or kerb rails shall be located so that the ramp-side face is either flush with the ramp-side face of the handrail or no greater than 100mm away from the ramp-side face of the handrail.

Stairways

Stairways shall not be the sole means of access. Ramps or lifts or both, shall be provided as an alternative to stairs.

Note: Although stairways are an impediment to people who use wheelchairs and many ambulant people with disabilities, if properly designed they can provide independent access for some people with mobility impairments.

3.2 Compliance with Requirements

A review of the existing footpaths in terms of compliance with accessibility requirements has been undertaken along River Road South.

The footpath along River Road South has a crossfall in excess of the prescribed crossfall (2.5%). The crossfall is typically 2% to 3%, however in some sections the crossfall increases to 5%. The gradient along River Road South varies between 1% and 15%. The section near the intersection with Mulga Road is the steepest, with the gradient reducing closer to the subject site.

Adequate vertical clearance is provided along this section, although footpath width is narrow adjacent to the light pole, as shown in Figure 3.1.

Figure 3.1: Restricted footpath width in River Road South

Along River Road South there is a level difference of approximately 4m over a length of 40-45m. The resultant gradient makes it impractical to provide a footpath along the existing footpath alignment that complies with the relevant standards.

3.3 Alternative Pedestrian Access

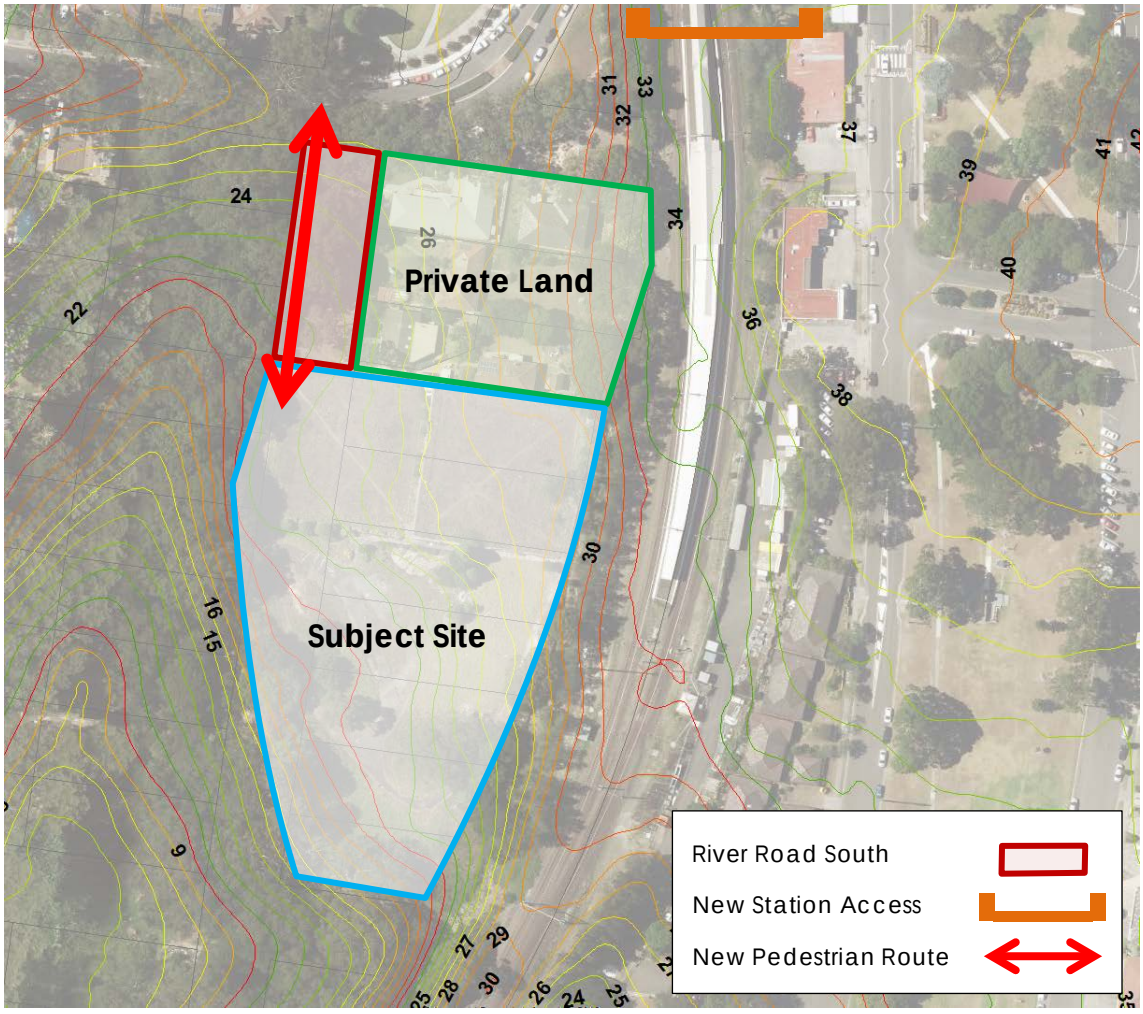
Due to the constraints along the existing River Road South carriageway, alternative pedestrian access arrangements should be considered that provide improved connection to Mulga Road and the railway station facilities.

A compliant raised/ elevated boardwalk could be considered within the 20m wide River Road South road reserve, between the carriageway and Myles Dunphy Reserve. The path is indicatively shown in Figure 3.2 and would require 8m long ramp sections at 1:14 grade separated by 1.5m long flat landings to comply with relevant standards. To cover the 4m level difference (approximate) between the site boundary and Mulga Road, a 65m long boardwalk would be required. Given the River Road South road reserve is 60m in length, a compliant boardwalk would be required to extend 5m into the site.

Alternatively, a raised/ elevated boardwalk could be considered within Myles Dunphy Reserve, subject to the necessary approvals.

A boardwalk has the potential to create a high quality entrance to the site and Myles Dunphy Reserve walking tracks, with passive surveillance and lighting to improve personal security. Any boardwalk or elevated path would need to be further confirmed during detailed design, including any requirements for retaining walls, enclosing of undercroft space and/or other CPTED considerations.

Figure 3.2: Potential Footpath Options



4. Traffic Impact Assessment

4.1 Background

4.1.1 Traffic Volumes

GTA Consultants commissioned turning movement counts on the intersection of Mulga Road and River Road on 9 February 2016 during the following peak periods:

- 7:00am and 9:00am
- 4:00pm and 6:00pm.

The AM and PM peak hour traffic volumes are summarised in Figure 4.1 and Figure 4.2.

Figure 4.1: Existing AM Peak Hour Traffic Volumes

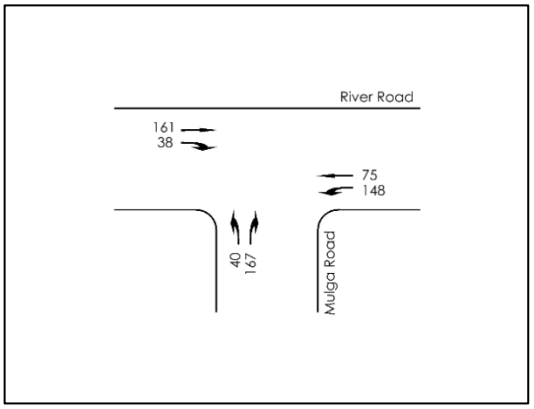
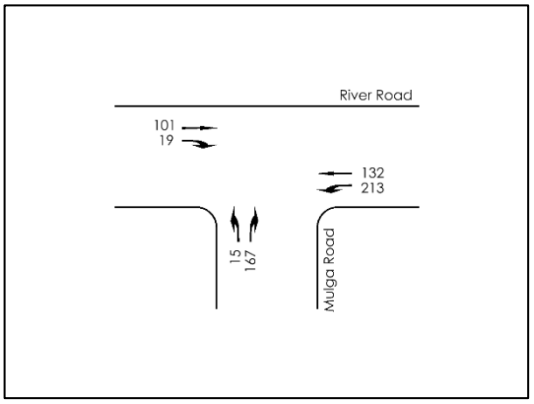


Figure 4.2: Existing PM Peak Hour Traffic Volumes



7-day traffic counts were also commissioned on Mulga Road from 6 February to 11 February 2016. There were on average 5,300 vehicles per weekday, with the busiest day being the Friday (5,650 vehicles per day).

The full results of the traffic surveys are provided in Appendix A of this report.

4.1.2 Environmental Capacity and Speed Performance Standards

The *RMS Guide to Traffic Generating Developments* specifies environmental limits for each road class, which are detailed in Table 4.1.

Table 4.1: RMS Environmental Capacity and Speed Performance Standards

Road Class	Road Type	Maximum Speed (km/h) [1]	Max Peak hour volume (veh/hr)
Local	Access way	25	100
	Street	40	200 (desirable) and 300 (maximum)
Collector	Street	50	300 (desirable) and 500 (maximum)

[1] In existing areas maximum speeds relate to 85th percentile speeds.

Source: Guide to Traffic Generating Developments (RMS, 2002)

The standards are based on RMS research relating to safety (cross-ability, visibility and pedestrian delay) and amenity (noise and air quality) on residential roads. These standards were developed to assist practitioners in the design of residential subdivisions, to ensure an appropriate level of safety and amenity is maintained when designing these types of roads.

In practice, if these standards or limits are met, it is reasonable to assume that the street can be crossed safely and with minimal delay, and that the traffic noise and air quality levels are acceptable. An assessment of the traffic volumes and vehicle speeds along Mulga Road is undertaken in the Section 4.3.1 of the report.

4.2 Traffic Generation, Distribution and Assessment

The *Guide to Traffic Generating Developments* (RMS, 2002) and RMS Technical Direction 2013/04a (TDT 2013/4a) provide guidance on the expected trip generation rates of various land use types. These values can be combined to estimate the overall traffic generation of a development during peak periods. It is expected that the intended seniors housing uses will be a combination of residential care facilities and seniors living facilities. The relevant traffic generation rates for these uses are provided in Table 4.2.

Table 4.2: RMS Traffic Generation Rates

Unit Type (Source)	Peak Period	Daily
Residential care facilities and seniors living		
Housing for Seniors (TDT (2013/4a)	0.4 trips per dwelling [1]	2.1 trips per dwelling

1. The morning peak hour for Housing for Seniors does not generally coincide with the network peak hour (TDT 2013/4a)

For the purposes of this study, a potential development scenario has been determined to assess the impact on the local road network. The scenario assumes that the site would contain a 100 residential unit seniors housing development. This equates to approximately 40 trips per hour in the peak periods or 210 trips per day, which is conservative given that residential care facilities typically generates less trips than seniors living.

In addition to parking provided for the proposed development, it is understood that Council's intention is that some limited car parking for Myles Dunphy Reserve users is also provided on-site. Any reserve car parking is expected to largely service existing reserve demands that currently occur on Mulga Road and River Road South. As such, the parking would alleviate on-street parking demands and is not expected to generate any significant additional vehicle trips to the area, particularly during the network peak periods.

For the purposes of estimating vehicle movements, the directional distribution has been assumed to be 80% eastbound and 20% westbound along Mulga Road. The directional split of traffic (i.e. the ratio between the inbound and outbound traffic movements) is anticipated to be 80% outbound and 20% inbound during the AM peak hour and vice versa in the PM peak hour.

4.3 External Road Network Assessment

Based on the above assumptions and estimates with respect to the potential traffic generating characteristics of a future seniors housing development on the subject site, the impacts on the adjacent local road network have been assessed.

The operation of the River Road/ Mulga Road intersection has been assessed for the existing and existing plus development scenario conditions using SIDRA INTERSECTION[3], a computer based modelling package which calculates intersection performance.

[3] Program used under license from Akcelik & Associates Pty Ltd.

The commonly used measure of intersection performance, as defined by the RMS, is vehicle delay. SIDRA INTERSECTION determines the average delay that vehicles encounter and provides a measure of the level of service.

Table 4.3 shows the criteria that SIDRA INTERSECTION adopts in assessing the level of service.

Table 4.3: SIDRA INTERSECTION Level of Service Criteria

Level of Service (LOS)	Average Delay per vehicle (secs/veh)	Traffic Signals, Roundabout	Give Way & Stop Sign
A	Less than 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Near capacity	Near capacity, accident study required
E	57 to 70	At capacity, at signals incidents will cause excessive delays	At capacity, requires other control mode
F	Greater than 70	Extra capacity required	Extreme delay, major treatment required

4.3.1 Existing Conditions

Table 4.4 presents a summary of the existing operation of the intersection.

Table 4.4: Mulga Road and River Road Intersection - Existing Operating Conditions

Peak	Leg	Degree of Saturation (DOS)	Average Delay (sec)	95th Percentile Queue (m)	Level of Service (LOS)
AM	South	0.26	9	7	A
	East	0.13	5	0	A
	West	0.12	6	2	A
	Overall	**0.26**	**9**	**7**	**A**
PM	South	0.24	9	6	A
	East	0.20	5	0	A
	West	0.07	6	1	A
	Overall	**0.24**	**9**	**6**	**A**

On the basis of the above assessment, the intersection of Mulga Road and River Road currently operates satisfactorily, with spare capacity and minimal queues and delays on all approaches.

Mulga Road is a collector road and therefore has a desirable environmental capacity of 300 vehicles per hour and a maximum limit of 500 vehicles per hour during peak period, as identified in Section 4.1.2. The traffic surveys found that Mulga Road carries 393 vehicles during the AM peak hour, as well as 414 vehicles during the PM peak hour. As such, traffic volumes along Mulga Road are above the desirable capacity (300 vehicles per hour) and approaching the environmental maximum capacity (500 vehicles per hour).

4.3.2 Existing plus Development Scenario

Against existing traffic volumes in the vicinity of the site, the additional 40 trips generated by the potential development scenario could not be expected to compromise the safety or function of the Mulga Road and River Road intersection, with operation expected to continue at Level of Service A.

There is also capacity along Mulga Road to accommodate the additional traffic generated by the potential development scenario, noting that PM peak traffic volumes (454 vehicles per hour) would be further approaching the environmental capacity limit (500 vehicles per hour).

Based on the above assessment, the existing local road network generally has capacity to accommodate a medium size seniors housing development (up to 100 units), whilst maintaining some capacity for other developments in the surrounding area.

4.4 Site Access Road

The existing configuration of River Road South (site access) and its operation as an intersection with Mulga Road has been reviewed below with respect to the ability to accommodate the proposed rezoning.

4.4.1 Capacity Assessment

River Road South currently functions as an accessway, thus would have an environmental capacity of 100 vehicles per hour.

The Landcom *Street Design Guidelines* indicates that an accessway should have a road reserve width of 8.0m, with a 6.0m wide carriageway. Such street types should ideally be designed as formal or informal shared zones with good passive surveillance, with a maximum length of 100m and straight alignment. The typical layout of an accessway is provided in the Landcom guidelines, with extracts shown in Figure 4.3 and Figure 4.4.

Figure 4.3: Accessway – Road-Section

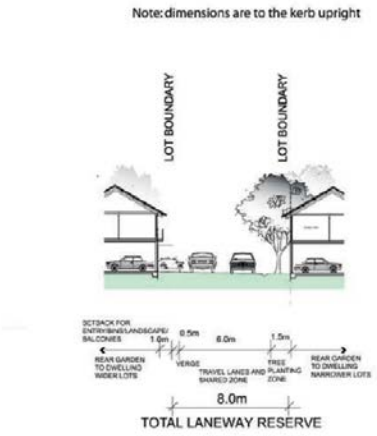
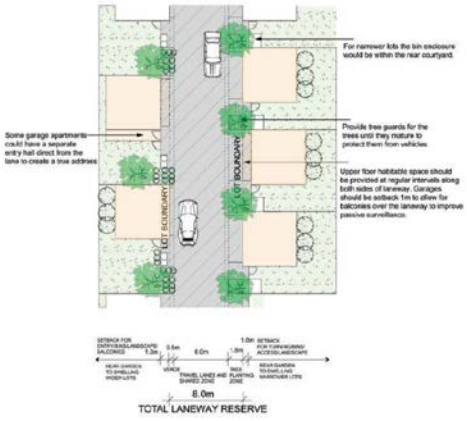


Figure 4.4: Accessway - Plan



Source: Landcom Street Design Guidelines

An accessway is not suitable to include kerbside car parking unless provided within indented car parking bays.

It is recommended that the River Road South is upgraded to provide a minimum 6.0m wide carriageway, with indented car parking bays provided where required/ suitable.

Based on the additional 40 trips generated by the Development Scenario, River Road South should continue to operate satisfactorily with spare capacity and minimal queues and delays experienced, given there is minimal traffic currently using the accessway.

4.4.2 Sight Distance Assessment

In addition to intersection operation, the geometry of the Mulga Road/ River Road South intersection has also been assessed from a safety perspective.

According to the Austroads Guide to Road Design Part 4A: Unsignalised and Signalised Intersections, appropriate sight distance needs to be provided to suit the eye level of a driver, being 1.25m above the road level.

Sight distance on the minor road is situated at a distance of 5.0m (minimum of 3.0m) from the lip of the channel or edge line projection of the major road.

The required stopping sight distance values defined by the Austroads Guide to Road Design are shown in Table 4.5.

Table 4.5: Intersection Sight Distance for Level Pavement.

Design Speed (km/h)	Approach Sight Distance – (ASD) (m)	
	RT = 1.5 secs	RT = 2.0secs
50	90	97

In the vicinity of River Road South, Mulga Road is relatively flat to the east and has an uphill grade to the west of. The upgrade to the west of River Road South results in a grade correction of up to -5m (i.e. 85m or 92m).

A review of the existing sight distance from River Road South indicates there is an unobstructed view of approximately 90m east of the access to River Road, as shown in Figure 4.5 and Figure 4.6.

Figure 4.5: Access Sight Distance – Looking East (Aerial View)

Source: Nearmap (image date 13 February 2016)

Figure 4.6: Access Sight Distance – Looking East (Driver's View)

A review of the existing sight distance from River Road South indicates there is unobstructed view of approximately 110m west of the access to Waratah Street, provided the trees and undergrowth within Myles Dunphy Reserve are trimmed, as shown in Figure 4.7 and Figure 4.8. Therefore the sight distance from River Road South is considered adequate in both directions. It is noted that any opportunity to relocate the power pole adjacent to River Road South intersection would be beneficial.

Figure 4.7: Access Sight Distance – Looking West (Aerial View)

Source: Nearmap (image date 13 February 2016)

Figure 4.8: Access Sight Distance – Looking West (Driver's View)

5. Parking and Loading

The parking and loading requirements for any development are generally outlined by a local council's Development Control Plan (DCP) or a State Environmental Planning Policy (SEPP, where relevant). In certain circumstances (e.g. the absence of a parking rate for certain land uses in a DCP or when certain transportation conditions are met) parking requirements can be determined from the *RMS Guide to Traffic Generating Developments* 2002.

In the absence of a formal development plan or yield at this stage, it is expected that any development of the land will adhere to the appropriate parking and loading requirements set out in this section.

5.1 Car Parking Requirements

The car parking requirements for different development types are set out in the Hurstville DCP. The relevant car parking rates for the intended land uses are set out in Table 5.1. It is noted that the DCP requires car parking calculations to be rounded up to the next whole number.

Table 5.1: DCP Car Parking Requirements

Land Use Type	DCP Minimum Car Parking Requirements
Residential care facility and seniors living	
Nursing Home	1 space per 10 beds + 1 space per 2 employees

The DCP car parking rates for Nursing Homes is similar to the relevant SEPP requirements, which are as follows:

- 1 parking space for each 10 beds in a residential care facilities or 1 space for each 15 beds for persons with dementia facilitates
- 1 parking space for each 2 persons employed and on duty at any one time
- 1 parking space suitable for an ambulance.

Alternatively, the RMS car parking requirements have also been referenced and provided in Table 5.2.

Table 5.2: RMS *Guide to Traffic Generating Developments* 2002 Car Parking Requirements

Land Use Type	RMS Minimum Car Parking Requirements
Residential care facility and seniors living	
Self-Contained Units	2 spaces per 3 units + 1 space per 5 units (visitor)
Hostel, Nursing and Convalescent Homes	1 space per 10 beds (visitor) + 1 space per 2 employees + 1 space per ambulance
Subsidised Developments	
Self-Contained Units	1 spaces per 10 units + 1 space per 10 units (visitor)
Hostel, Nursing and Convalescent Homes	1 space per 10 beds (visitor) + 1 space per 2 employees + 1 space per ambulance

5.2 Car Wash Bay

Any residential development on the subject site with four or more dwellings will be required to provide a car wash bay within the visitor parking area to accord with the Hurstville DCP requirements. The DCP states that the car wash bay can comprise a visitor car space.

5.3 Parking for People with Disability

The Hurstville DCP states that parking for people with disability (accessible parking) is required to accord with AS 1428 and AS/NZS 2890.6. The DCP does not specify the quantum of accessible parking required, however references to AS/NZS 2890.6, which states the requirements summarised in Table 5.3.

Table 5.3: AS/NZS 2890.6 – Accessible Car Parking Requirements

Total Number of Car Spaces	Number of Accessible Car Spaces
1-20	Not less than 1
21-50	Not less than 2
For every additional 50 car spaces or part thereof	Not less than 1

For adaptable housing, the DCP states at least one accessible parking space be provided for each adaptable dwelling.

5.4 Bicycle Parking Requirements

The Hurstville DCP provides the following bicycle parking requirements relevant to the intended land uses:

- *Bicycle storage racks must be provided to accommodate a minimum of 1 bicycle space for every three residential units.*
- *Bicycle racks must be easily accessible from the public domain, and within areas that are well lit with adequate levels of natural surveillance.*
- *Bicycle storage facilities for residential uses can be provided within private garage areas, where it can be demonstrated that:*
  - *There is sufficient storage within the garage for a bicycle and the required number of vehicles; and*
  - *There is a safe path for cyclists to leave the garage area.*

It is assumed that appropriate bicycle access and parking provisions could be accommodated within any future design.

5.5 Loading and Waste Collection Requirements

The Hurstville DCP states the following requirements for waste collection:

"Developments are to incorporate convenient access for waste collection, noting that Council does not provide collection from within private properties or roads. Should a private waste collection vehicle be required to enter a property, access driveways and internal roads must be designed to provide adequate clearance and manoeuvring spaces to allow the waste collection vehicle to enter and exit in a forward direction within impeding upon general access to, from or within the site."

On the basis that the development will include a private internal road layout, a private waste collection contractor is required to service the site. The waste collection vehicle to service the site

will also dictate the modifications required to River Road South to ensure appropriate two-way flows can be maintained.

Delivery and service vehicle requirements are also provided with the DCP, which states:

- New developments must provide adequate space for loading, unloading, parking and manoeuvring of delivery and service vehicles.
- All loading and unloading must be undertaken within a designated loading bay at all times.
- All delivery and service vehicles must enter and leave the site in a forward direction.

It would be good practice for a site of this nature to accommodate access by a 12.5m Large Rigid Vehicle, with the vehicle able to use the full carriageway for turning movements assuming appropriate sight distances are available.

6. Conclusion

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

i Existing footpath facilities in the vicinity of the site provide convenient access to local points of interest including bus stops, local parks, Oatley Railway Station as well as Oatley West and Oatley Village Shops, all within a 2 minute walk from the site.

ii Accessibility to Oatley Railway Station is currently being improved for people with disabilities, with new lift access to the station from Oatley Parade and Mulga Road, as well as a new pedestrian footbridge across the railway line.

iii The existing footpath along River Road South has sections of gradients where it would be impractical to provide an accessible path that complies with the relevant Australian Standards (AS1428.1 and AS1428.2).

iv A new compliant raised/ elevated boardwalk, with appropriate ramps to reduce the gradient, could be considered within the 20m wide River Road South road reserve, between the carriageway and Myles Dunphy Reserve. This would facilitate appropriate pedestrian access for a seniors housing development.

v River Road South (site access), which functions as an accessway, would need to be upgraded to provide a minimum 6.0m wide carriageway to adequately function as an accessway. Kerbside car parking within the carriageway would restrict capacity and two-way flow, thus indented car parking bays are recommended, if required.

vi There is adequate spare local road network capacity to cater for traffic generated by a medium size seniors housing development (up to 100 units), whilst maintaining some capacity for other development in the surrounding area. It is noted that Mulga Road is approaching the relevant environmental capacity limit during the PM peak period.

vii There is adequate and generally unobstructed sight distances at the Mulga Road/ River Road South intersection to comply with the relevant Austroads guidelines, subject to trimming of trees and undergrowth within Myles Dunphy Reserve to the west.

Appendix A

Survey Results

Job No	N2177
Client	GTA
Road	Mulga Rd - btw Waratah St and River Rd
Location	Oatley
Site No.	1
Start Date	6-Feb-16
Description	Volume Summary
Direction	EB

MATRIX Traffic and Transport Data

Average Weekday	2,762
7 Day Average	2,663

Time	Day of Week							Ave W'day	7 Day Ave
	Mon	Tue	Wed	Thu	Fri	Sat	Sun		
	8-Feb	9-Feb	10-Feb	11-Feb	12-Feb	6-Feb	7-Feb		
AM Peak	184	179	205	170	196	240	176		
PM Peak	278	254	263	258	262	240	196		
0:00	7	6	18	11	11	21	29	11	15
1:00	8	2	3	2	7	5	15	4	6
2:00	2	2	4	2	1	3	4	2	3
3:00	2	0	0	1	1	3	4	1	2
4:00	4	5	2	0	3	3	3	3	3
5:00	11	10	9	14	17	5	9	12	11
6:00	43	45	54	47	47	25	13	47	39
7:00	164	167	171	161	157	85	31	164	134
8:00	142	163	160	152	160	144	100	155	146
9:00	184	179	205	170	196	192	134	187	180
10:00	140	129	128	146	161	222	176	141	157
11:00	153	136	163	164	154	240	165	154	168
12:00	173	175	144	158	181	240	196	166	181
13:00	133	119	150	165	167	221	183	147	163
14:00	141	170	131	146	178	172	173	153	159
15:00	225	240	263	258	262	177	178	250	229
16:00	232	232	237	218	262	187	195	236	223
17:00	278	233	225	241	240	189	175	243	226
18:00	249	254	259	248	222	183	130	246	221
19:00	161	174	178	175	232	109	139	184	167
20:00	100	129	128	113	105	64	64	115	100
21:00	91	68	85	72	87	55	47	81	72
22:00	20	27	34	38	66	45	27	37	37
23:00	16	14	26	16	39	34	20	22	24
Total	2679	2679	2777	2718	2956	2624	2210	2762	2663

7-19	2214	2197	2236	2227	2340	2252	1836	2243	2186
6-22	2609	2613	2681	2634	2811	2505	2099	2670	2565
6-24	2645	2654	2741	2688	2916	2584	2146	2729	2625
0-24	2679	2679	2777	2718	2956	2624	2210	2762	2663

Job No	N2177
Client	GTA
Road	Mulga Rd - btw Waratah St and River Rd
Location	Oatley
Site No.	1
Start Date	6-Feb-16
Description	Volume Summary
Direction	WB

Average Weekday	2,530
7 Day Average	2,438

Time	Day of Week							Ave W'day	7 Day Ave
	Mon	Tue	Wed	Thu	Fri	Sat	Sun		
	8-Feb	9-Feb	10-Feb	11-Feb	12-Feb	6-Feb	7-Feb		
AM Peak	208	209	240	209	201	245	160		
PM Peak	183	193	192	199	194	202	168		
0:00	5	8	9	5	5	26	18	6	11
1:00	0	2	2	2	1	7	6	1	3
2:00	3	1	1	1	1	4	5	1	2
3:00	3	4	1	3	1	5	4	2	3
4:00	9	11	7	6	11	5	6	9	8
5:00	32	41	48	44	38	20	8	41	33
6:00	83	98	81	96	96	35	25	91	73
7:00	208	209	240	205	195	90	60	211	172
8:00	189	186	190	209	201	166	90	195	176
9:00	178	184	214	171	193	203	132	188	182
10:00	175	132	162	143	171	217	153	157	165
11:00	134	159	131	172	173	245	160	154	168
12:00	138	121	135	139	165	202	168	140	153
13:00	132	125	131	127	142	169	144	131	139
14:00	150	149	127	149	157	174	139	146	149
15:00	169	189	169	189	185	151	161	180	173
16:00	183	177	169	171	164	173	149	173	169
17:00	164	193	185	199	194	156	158	187	178
18:00	151	178	192	167	192	128	138	176	164
19:00	140	139	150	126	144	94	100	140	128
20:00	100	99	92	95	100	69	72	97	90
21:00	55	48	63	73	75	48	44	63	58
22:00	25	28	18	16	54	32	28	28	29
23:00	9	3	9	8	29	22	6	12	12
Total	2435	2484	2526	2516	2687	2441	1974	2530	2438

7-19	1971	2002	2045	2041	2132	2074	1652	2038	1988
6-22	2349	2386	2431	2431	2547	2320	1893	2429	2337
6-24	2383	2417	2458	2455	2630	2374	1927	2469	2378
0-24	2435	2484	2526	2516	2687	2441	1974	2530	2438

Job No	N2177
Client	GTA
Road	Mulga Rd - btw Waratah St and River Rd
Location	Oatley
Site No.	1
Start Date	6-Feb-16
Description	Volume Summary
Direction	Combined

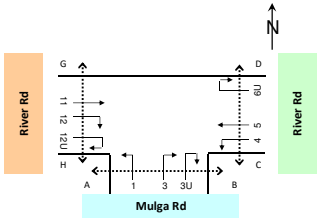
MATRIX Traffic and Transport Data

Average Weekday	5,291
7 Day Average	5,101

Time	Day of Week							Ave W'day	7 Day Ave
	Mon	Tue	Wed	Thu	Fri	Sat	Sun		
	8-Feb	9-Feb	10-Feb	11-Feb	12-Feb	6-Feb	7-Feb		
AM Peak	372	376	419	366	389	485	329		
PM Peak	442	432	451	447	447	442	364		
0:00	12	14	27	16	16	47	47	17	26
1:00	8	4	5	4	8	12	21	6	9
2:00	5	3	5	3	2	7	9	4	5
3:00	5	4	1	4	2	8	8	3	5
4:00	13	16	9	6	14	8	9	12	11
5:00	43	51	57	58	55	25	17	53	44
6:00	126	143	135	143	143	60	38	138	113
7:00	372	376	411	366	352	175	91	375	306
8:00	331	349	350	361	361	310	190	350	322
9:00	362	363	419	341	389	395	266	375	362
10:00	315	261	290	289	332	439	329	297	322
11:00	287	295	294	336	327	485	325	308	336
12:00	311	296	279	297	346	442	364	306	334
13:00	265	244	281	292	309	390	327	278	301
14:00	291	319	258	295	335	346	312	300	308
15:00	394	429	432	447	447	328	339	430	402
16:00	415	409	406	389	426	360	344	409	393
17:00	442	426	410	440	434	345	333	430	404
18:00	400	432	451	415	414	311	268	422	384
19:00	301	313	328	301	376	203	239	324	294
20:00	200	228	220	208	205	133	136	212	190
21:00	146	116	148	145	162	103	91	143	130
22:00	45	55	52	54	120	77	55	65	65
23:00	25	17	35	24	68	56	26	34	36
Total	5114	5163	5303	5234	5643	5065	4184	5291	5101
7-19	4185	4199	4281	4268	4472	4326	3488	4281	4174
6-22	4958	4999	5112	5065	5358	4825	3992	5098	4901
6-24	5028	5071	5199	5143	5546	4958	4073	5197	5003
0-24	5114	5163	5303	5234	5643	5065	4184	5291	5101

Job No.	: N2177
Client	: GTA
Suburb	: Oatley
Location	: 1. Mulga Rd / River Rd
Day/Date	: Tue, 9th Feb 2016
Weather	: Fine
Description	: Classified Intersection Count
	: 15 mins Data

Classifications	**Class 1**	**Class 2**	**Class 3**
	Cars	Trucks	Buses



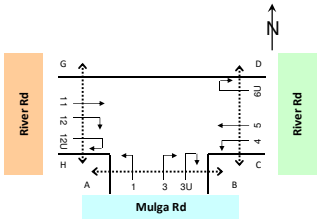
MATRIX Traffic and Transport Data

Approach	**Mulga Rd**												**River Rd**											
Direction	**Direction 1 (Left Turn)**				**Direction 3 (Right Turn)**				**Direction 3U (U Turn)**				**Direction 4 (Left Turn)**				**Direction 5 (Through)**				**Direction 6U (U Turn)**			
Time Period	**Cars**	**Trucks**	**Buses**	**Total**	**Cars**	**Trucks**	**Buses**	**Total**	**Cars**	**Trucks**	**Buses**	**Total**	**Cars**	**Trucks**	**Buses**	**Total**	**Cars**	**Trucks**	**Buses**	**Total**	**Cars**	**Trucks**	**Buses**	**Total**
7:00 to 7:15	8	0	0	**0**	15	1	0	**3**	1	0	0	**0**	14	0	0	**0**	13	0	0	**1**	0	0	0	**0**
7:15 to 7:30	16	0	0	**0**	32	0	0	**0**	0	0	0	**0**	18	0	0	**2**	13	0	0	**0**	0	0	0	**0**
7:30 to 7:45	12	0	0	**0**	36	2	1	**1**	1	0	0	**0**	33	1	0	**0**	14	0	0	**0**	0	0	0	**0**
7:45 to 8:00	17	0	0	**0**	37	0	0	**1**	0	0	0	**0**	39	1	0	**0**	14	0	0	**0**	0	0	0	**0**
8:00 to 8:15	14	0	0	**0**	45	0	0	**0**	0	0	0	**0**	37	1	1	**1**	21	0	0	**0**	0	0	0	**0**
8:15 to 8:30	6	0	0	**0**	39	0	0	**0**	0	0	0	**0**	32	1	0	**0**	11	0	0	**2**	0	0	0	**0**
8:30 to 8:45	3	0	0	**0**	45	0	1	**0**	0	0	0	**0**	36	0	0	**1**	29	0	0	**3**	0	0	0	**0**
8:45 to 9:00	1	0	0	**0**	34	0	1	**0**	0	0	0	**0**	44	0	0	**0**	26	0	0	**0**	0	0	0	**0**
AM Totals	**77**	**0**	**0**	**77**	**283**	**3**	**3**	**289**	**2**	**0**	**0**	**2**	**253**	**4**	**1**	**258**	**141**	**0**	**0**	**141**	**0**	**0**	**0**	**0**
16:00 to 16:15	5	0	0	**0**	45	1	0	**0**	0	0	0	**0**	57	0	1	**0**	33	0	0	**0**	0	0	0	**0**
16:15 to 16:30	5	0	0	**0**	45	0	0	**0**	0	0	0	**0**	42	1	0	**0**	26	0	0	**0**	0	0	0	**0**
16:30 to 16:45	2	0	0	**0**	41	0	1	**0**	0	0	0	**0**	56	0	0	**1**	43	0	0	**0**	0	0	0	**0**
16:45 to 17:00	3	0	0	**0**	34	0	0	**0**	0	0	0	**0**	55	1	0	**1**	30	0	0	**0**	0	0	0	**0**
17:00 to 17:15	5	0	0	**0**	46	0	0	**1**	0	0	0	**0**	50	0	1	**0**	27	0	0	**0**	0	0	0	**0**
17:15 to 17:30	2	0	0	**0**	31	1	0	**0**	0	0	0	**0**	55	0	0	**1**	33	0	0	**0**	0	0	0	**0**
17:30 to 17:45	4	0	0	**1**	49	1	1	**0**	0	0	0	**0**	40	0	0	**0**	37	0	0	**1**	0	0	0	**0**
17:45 to 18:00	0	0	0	**0**	41	1	0	**1**	0	0	0	**0**	59	0	0	**0**	32	0	0	**0**	0	0	0	**0**
PM Totals	**26**	**0**	**0**	**26**	**332**	**4**	**2**	**338**	**0**	**0**	**0**	**0**	**414**	**2**	**2**	**418**	**261**	**0**	**0**	**261**	**0**	**0**	**0**	**0**

Approach									**River Rd**												**Crossing Pedestrians**						
Direction									**Direction 11 (Through)**				**Direction 12 (Right Turn)**				**Direction 12U (U Turn)**										
Time Period									**Cars**	**Trucks**	**Buses**	**Total**	**Cars**	**Trucks**	**Buses**	**Total**	**Cars**	**Trucks**	**Buses**	**Total**	**A**	**B**	**C**	**D**	**G**	**H**	**Total**
7:00 to 7:15									17	0	0	**1**	8	0	0	**0**	0	0	0	**0**	0	16	0	0	0	18	**34**
7:15 to 7:30									35	0	0	**0**	10	0	0	**0**	0	0	0	**0**	0	21	0	0	0	19	**40**
7:30 to 7:45									24	1	0	**1**	8	0	0	**0**	0	0	0	**0**	1	26	0	0	0	23	**50**
7:45 to 8:00									32	0	1	**0**	23	0	0	**0**	0	0	0	**0**	0	20	0	0	0	13	**33**
8:00 to 8:15									35	0	0	**0**	6	0	1	**0**	0	0	0	**0**	2	15	0	0	2	13	**32**
8:15 to 8:30									39	0	0	**1**	6	0	0	**0**	0	0	0	**0**	1	26	0	0	1	27	**55**
8:30 to 8:45									54	0	0	**1**	1	1	0	**0**	0	0	0	**0**	0	8	0	0	0	6	**14**
8:45 to 9:00									36	1	0	**1**	2	0	0	**0**	0	0	0	**0**	0	4	0	0	0	4	**8**
AM Totals									**272**	**2**	**1**	**275**	**64**	**1**	**1**	**66**	**0**	**0**	**0**	**0**	**4**	**136**	**0**	**0**	**3**	**123**	**266**
16:00 to 16:15									30	0	0	**0**	3	0	0	**0**	0	0	0	**0**	7	2	0	0	1	2	**12**
16:15 to 16:30									25	0	0	**0**	9	0	0	**0**	0	0	0	**0**	9	3	0	0	5	1	**18**
16:30 to 16:45									21	0	0	**0**	3	0	0	**0**	0	0	0	**0**	9	0	0	0	5	0	**14**
16:45 to 17:00									24	1	0	**1**	4	0	0	**0**	0	0	0	**0**	15	2	0	0	6	2	**25**
17:00 to 17:15									19	0	0	**0**	1	0	0	**0**	0	0	0	**0**	7	0	0	0	4	0	**11**
17:15 to 17:30									27	0	0	**0**	3	0	0	**0**	0	0	0	**0**	26	2	0	0	10	1	**39**
17:30 to 17:45									25	0	0	**0**	11	0	0	**0**	0	0	0	**0**	25	0	0	0	9	0	**34**
17:45 to 18:00									35	1	0	**1**	1	0	0	**0**	0	0	0	**0**	6	2	0	0	3	1	**12**
PM Totals									**206**	**2**	**0**	**208**	**35**	**0**	**0**	**35**	**0**	**0**	**0**	**0**	**104**	**11**	**0**	**0**	**43**	**7**	**165**

Job No. : N2177
Client : GTA
Suburb : Oatley
Location : 1. Mulga Rd / River Rd

Day/Date : Tue, 9th Feb 2016
Weather : Fine
Description : Classified Intersection Count
: Hourly Summary



MATRIX Traffic and Transport Data

Approach	Mulga Rd												River Rd															
Direction	Direction 1 (Left Turn)					Direction 3 (Right Turn)					Direction 3U (U Turn)					Direction 4 (Left Turn)					Direction 5 (Through)					Direction 6U (U Turn)			
Time Period	Cars	Trucks	Buses	Total		Cars	Trucks	Buses	Total		Cars	Trucks	Buses	Total		Cars	Trucks	Buses	Total		Cars	Trucks	Buses	Total		Cars	Trucks	Buses	Total
7:00 to 8:00	53	0	0	**53**		120	3	1	**124**		2	0	0	**2**		104	2	0	**106**		54	0	0	**54**		0	0	0	**0**
7:15 to 8:15	59	0	0	**59**		150	2	1	**153**		1	0	0	**1**		127	3	1	**131**		62	0	0	**62**		0	0	0	**0**
7:30 to 8:30	49	0	0	**49**		157	2	1	**160**		1	0	0	**1**		141	4	1	**146**		60	0	0	**60**		0	0	0	**0**
7:45 to 8:45	40	0	0	**40**		166	0	1	**167**		0	0	0	**0**		144	3	1	**148**		75	0	0	**75**		0	0	0	**0**
8:00 to 9:00	24	0	0	**24**		163	0	2	**165**		0	0	0	**0**		149	2	1	**152**		87	0	0	**87**		0	0	0	**0**
AM Totals	**77**	**0**	**0**	**77**		**283**	**3**	**3**	**289**		**2**	**0**	**0**	**2**		**253**	**4**	**1**	**258**		**141**	**0**	**0**	**141**		**0**	**0**	**0**	**0**
16:00 to 17:00	15	0	0	**15**		165	1	1	**167**		0	0	0	**0**		210	2	1	**213**		132	0	0	**132**		0	0	0	**0**
16:15 to 17:15	15	0	0	**15**		166	0	1	**167**		0	0	0	**0**		203	2	1	**206**		126	0	0	**126**		0	0	0	**0**
16:30 to 17:30	12	0	0	**12**		152	1	1	**154**		0	0	0	**0**		216	1	1	**218**		133	0	0	**133**		0	0	0	**0**
16:45 to 17:45	14	0	0	**14**		160	2	1	**163**		0	0	0	**0**		200	1	1	**202**		127	0	0	**127**		0	0	0	**0**
17:00 to 18:00	11	0	0	**11**		167	3	1	**171**		0	0	0	**0**		204	0	1	**205**		129	0	0	**129**		0	0	0	**0**
PM Totals	**26**	**0**	**0**	**26**		**332**	**4**	**2**	**338**		**0**	**0**	**0**	**0**		**414**	**2**	**2**	**418**		**261**	**0**	**0**	**261**		**0**	**0**	**0**	**0**

Approach	River Rd												Crossing Pedestrians						
Direction	Direction 11 (Through)				Direction 12 (Right Turn)				Direction 12U (U Turn)										
Time Period	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	Cars	Trucks	Buses	Total	A	B	C	D		G	H	Total
7:00 to 8:00	108	1	1	**110**	49	0	0	**49**	0	0	0	**0**	1	83	0	0		0	73	**157**
7:15 to 8:15	126	1	1	**128**	47	0	1	**48**	0	0	0	**0**	3	82	0	0		2	68	**155**
7:30 to 8:30	130	1	1	**132**	43	0	1	**44**	0	0	0	**0**	4	87	0	0		3	76	**170**
7:45 to 8:45	160	0	1	**161**	36	1	1	**38**	0	0	0	**0**	3	69	0	0		3	59	**134**
8:00 to 9:00	164	1	0	**165**	15	1	1	**17**	0	0	0	**0**	3	53	0	0		3	50	**109**
AM Totals	**272**	**2**	**1**	**275**	**64**	**1**	**1**	**66**	**0**	**0**	**0**	**0**	**4**	**136**	**0**	**0**		**3**	**123**	**266**
16:00 to 17:00	100	1	0	**101**	19	0	0	**19**	0	0	0	**0**	40	7	0	0		17	5	**69**
16:15 to 17:15	89	1	0	**90**	17	0	0	**17**	0	0	0	**0**	40	5	0	0		20	3	**68**
16:30 to 17:30	91	1	0	**92**	11	0	0	**11**	0	0	0	**0**	57	4	0	0		25	3	**89**
16:45 to 17:45	95	1	0	**96**	19	0	0	**19**	0	0	0	**0**	73	4	0	0		29	3	**109**
17:00 to 18:00	106	1	0	**107**	16	0	0	**16**	0	0	0	**0**	64	4	0	0		26	2	**96**
PM Totals	**206**	**2**	**0**	**208**	**35**	**0**	**0**	**35**	**0**	**0**	**0**	**0**	**104**	**11**	**0**	**0**		**43**	**7**	**165**

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