

DA/485/2020
Proposed Residential Aged Care Facility Development

**65-71 Burdett Street,
Hornsby**

REVISED TRAFFIC AND PARKING ASSESSMENT REPORT

20 November 2020

Ref 19500

VARGA TRAFFIC PLANNING Pty Ltd
Transport, Traffic and Parking Consultants 

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1. INTRODUCTION

This revised report has been prepared to accompany an amended development application to Council for a residential aged care facility development proposal to be located at 65-71 Burdett Street, Hornsby (Figures 1 and 2).

In June 2020, DA/485/2020 was lodged with Council for the demolition of the four existing dwelling and outbuildings on the site to facilitate the construction of a new residential aged care facility (RACF), comprising 102 beds with up to 40 staff on-site during the afternoon shift change. This amended scheme has been prepared in response to a number of comments received from Council and the Local Planning Panel.

In particular, the amendments include changes to the basement access driveway into the loading dock area in order to accommodate Council's waste collection vehicle. A dedicated mini-bus parking area has also been provided within the north-western corner of the basement level, located directly adjacent the garbage holding room.

The proposed amended scheme now comprises 98 beds – i.e. *reduction* of 4 beds – with up to 40 staff on-site during the afternoon shift change.

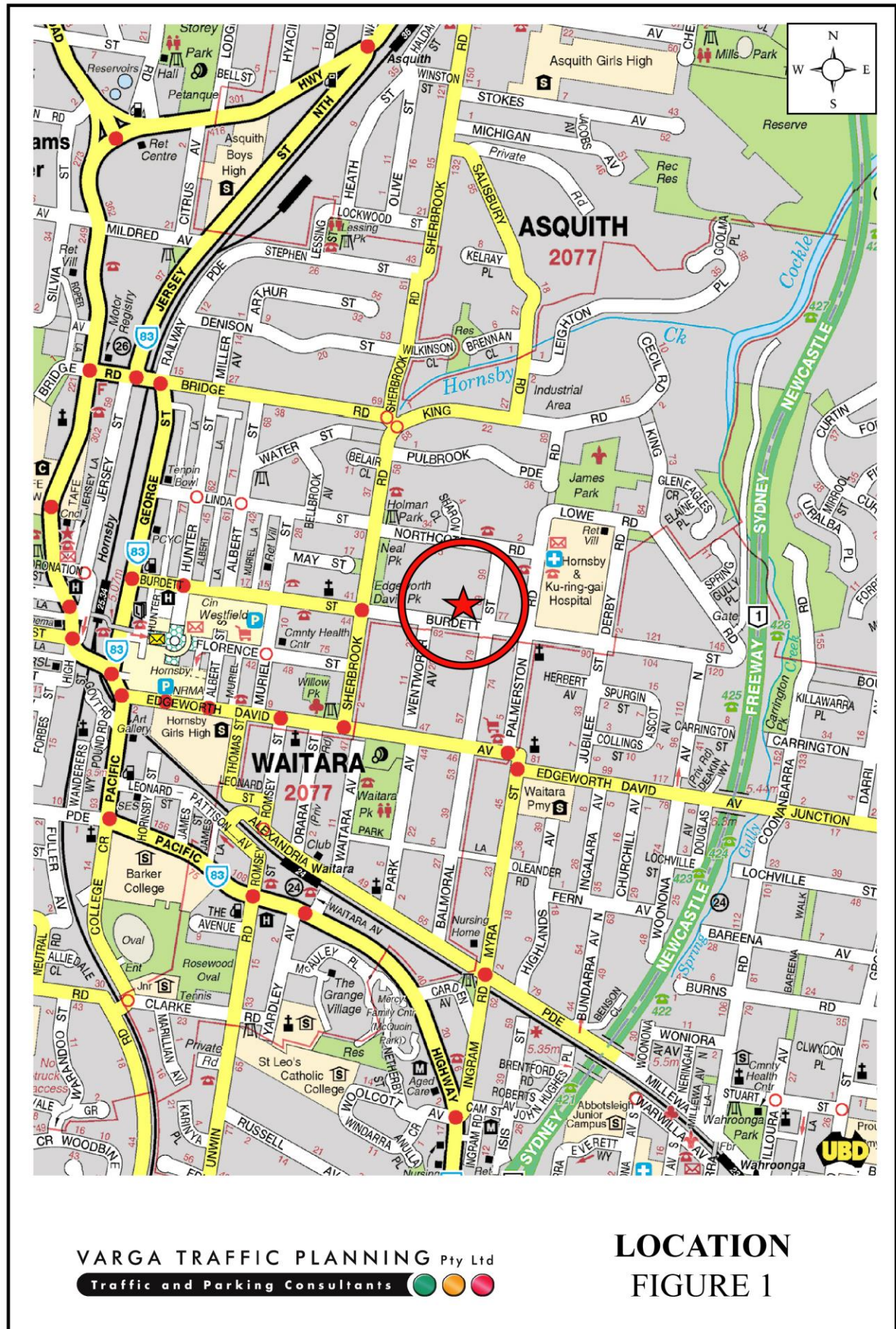
Off-street parking in the amended scheme is again to be provided within a new basement car parking area as well as a new at-grade drop-off/pick-up area with a dedicated ambulance space, in accordance with *State Environmental Planning Policy (Housing for Senior or People with a Disability) 2004* requirements.

Vehicular access to the basement parking facilities remains provided via a new entry/exit driveway located towards the western end of the Burdett Street site frontage.

Vehicular access to the at-grade drop-off/pick-up and ambulance parking area is also to remain provided via separate entry and exit driveways located on either side of the slow point located directly outside the site in Burdett Street.

The purpose of this revised report is to assess the traffic and parking implications of the amended development proposal and to that end this report:

- describes the site and provides details of the amended development scheme as well as the original scheme
- reviews the road network in the vicinity of the site
- reviews the public transport services available in the vicinity of the site
- estimates the traffic generation potential of the amended development and compares it with the original scheme
- assesses the traffic implications of the amended development proposal in terms of road network capacity
- reviews the geometric design features of the proposed car parking and loading facilities for compliance with the relevant codes and standards
- assesses the adequacy and suitability of the quantum of off-street car parking and loading provided on the site.





2. PROPOSED DEVELOPMENT

Site

The subject site is located on the northern side of Burdett Street, between Balmoral Street and Wentworth Avenue. The site has a street frontage approximately 60m in length Burdett Street and occupies an area of approximately 6,105m².

The subject site is currently occupied by four separate dwelling houses, with three dwellings fronting Burdett Street and one at the rear, accessed via a battle-axe handle. Vehicular access to the site is provided via respective driveways located in Burdett Street. A recent aerial image of the site and its surroundings is reproduced below.



Council has previously approved the demolition of the three existing dwellings located at 65-69 Burdett Street to facilitate the construction of a new seniors living residential development, comprising a total of 22 residential townhouse units (DA/532/2017/C).

Originally Submitted Scheme

In June 2020, DA/485/2020 was lodged with Council for the demolition of the four existing dwelling and outbuildings on the site to facilitate the construction of a new residential aged care facility (RACF), comprising 102 beds with up to 40 staff on-site during the afternoon shift change.

The original scheme included a number of ancillary components such as administration offices, dining/living areas, community spaces, a café, hair salon, therapy/activity rooms and care services areas. All of these facilities were to be operated by *Thompson Health Care* and intended for use of residents only. It is pertinent to note that the proposed café was not expected to be a “destination” venue, it was expected that the majority of its customers would be drawn from within the facility, with customers being staff, visitors and future residents living within walking distance of the café.

A maximum of 28 staff were originally proposed to be present on site during the main day shift, with 40 staff on-site during the afternoon shift change. The typical staff profile at the facility included:

- Facility manager (Director of Nursing)
- Deputy Director of Nursing
- Administration Officer
- Care staff including registered nurses, care service employees & Recreational Activities Officer
- Care service employees including kitchen staff, handyman/cleaners
- Administration staff/clerical staff
- External Contractors (i.e. Physiotherapist & Specialists)

Off-street parking was proposed for a total of 50 cars, *plus* a dedicated ambulance space in accordance with *State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004* requirements.

The off-street car parking was proposed to be provided within the new basement car parking area, with the dedicated ambulance parking space located at-grade, adjacent to the entrance of the RACF building.

Vehicular access to the basement parking facilities was proposed via a new entry/exit driveway located at the western end of the Burdett Street site frontage. Vehicular access to the at-grade ambulance bay and pick-up/drop-off area was proposed via separate entry and exit driveways located either side of the existing slow point in Burdett Street, directly outside the site.

Loading/servicing for the original scheme was proposed to be undertaken by a variety of commercial vehicles up to and including 8.8m long MRV trucks. The service area was proposed at the bottom of the basement access ramp, with vehicular access to the loading dock provided via the abovementioned two-way basement access driveway located at the western end of the Burdett Street site frontage.

Proposed Modified Development

The proposed modified development again involves the demolition of the four existing dwellings on the site to facilitate the construction of an assisted seniors living residential aged care facility comprising a total of 98 beds – i.e. *reduction* of 4 beds from the original scheme.

Off-street parking is again proposed for a total of 50 cars, *plus* a dedicated ambulance space in accordance with *State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004* requirements.

Notwithstanding, the revised scheme now makes provision for a dedicated mini-bus parking area located within the basement, adjacent to the garbage holding room, capable of accommodating a mini-bus (i.e. similar in size to a 7m long, 22-seater Toyota Coaster).

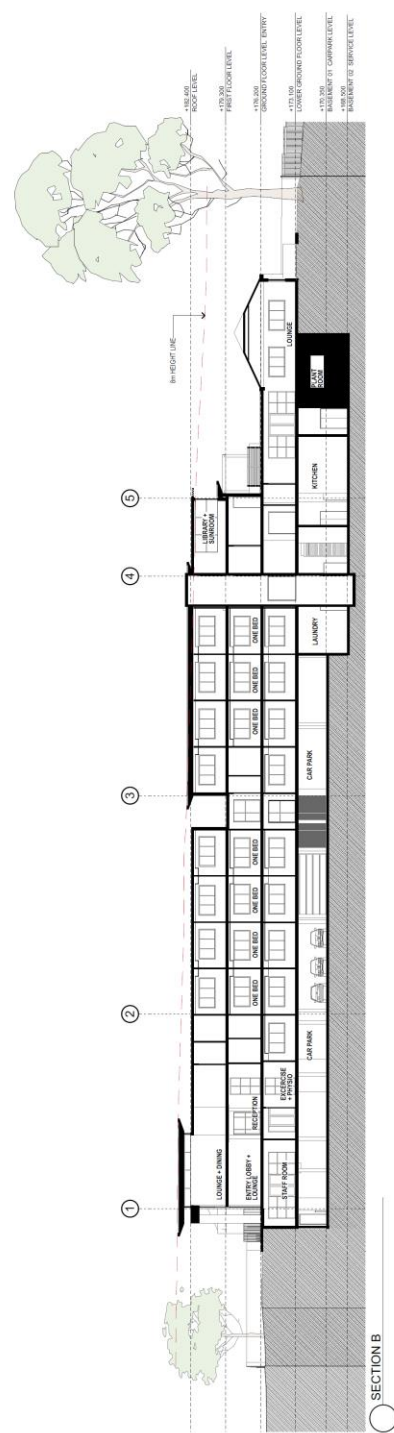
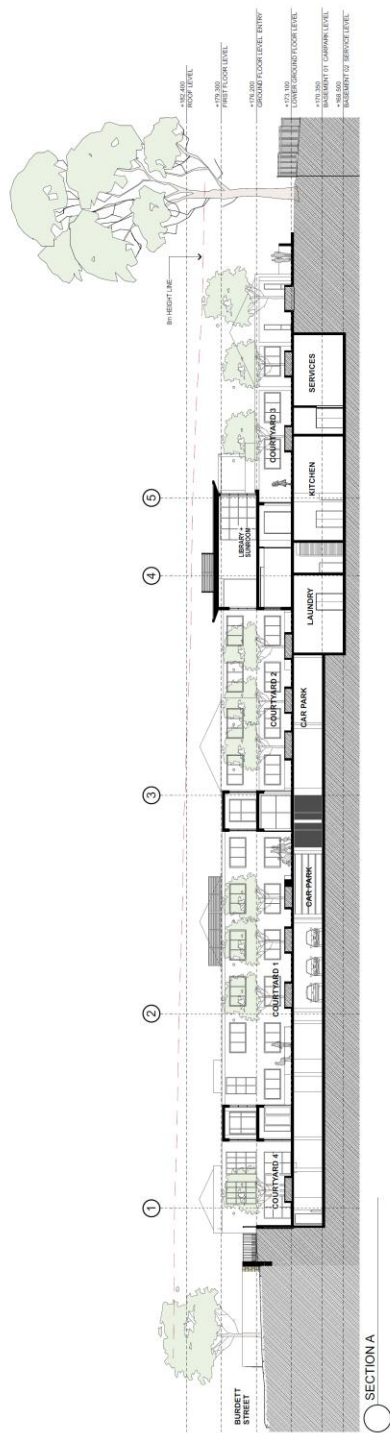
Furthermore, the loading/servicing arrangements for the proposed development have been modified in order to accommodate service vehicles up to and including Council's 10.5m long rigid garbage truck, albeit with a slightly reduced overhead clearance requirement of 4.2m. The service area is again to be located at the bottom of the basement access ramp, with vehicular access to the loading dock provided via the abovementioned basement access driveway off the Burdett Street site frontage.

The previously proposed at-grade and basement parking areas and vehicular access arrangements remain generally *unchanged*.

Plans of the proposed revised scheme have been prepared by *Gartner Trovato Architects* and are reproduced in the following pages.









3. TRAFFIC ASSESSMENT

Road Hierarchy

The road hierarchy allocated to the road network in the vicinity of the site by the Roads and Maritime Services is illustrated on Figure 3.

The Pacific Highway is classified by the RMS as a *State Road* and provides the key north-south road link in the area, linking North Sydney to Hornsby and beyond. It typically carries three traffic lanes in each direction in the vicinity of the site, with opposing traffic flows separated by a central median island.

Edgeworth David Avenue is classified by the RMS as a *Regional Road*, linking the Pacific Highway and Junction Street. It typically carries two traffic lanes in each direction in the vicinity of the site, with kerbside parking generally prohibited.

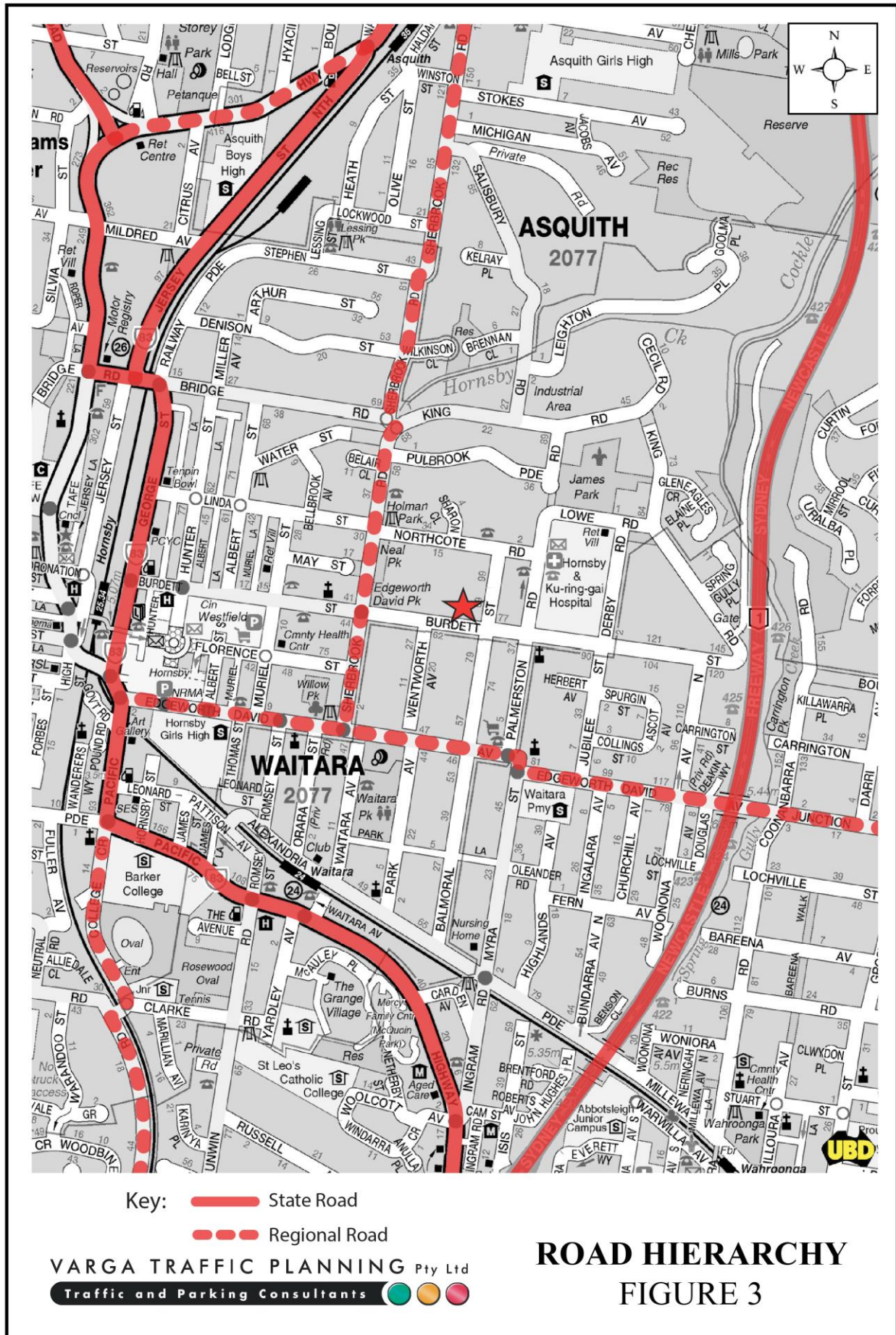
Sherbrook Road is also classified by the RMS as a *Regional Road* and provides a secondary north-south road link in the area, linking Waitara to Asquith. It typically carries one traffic lane in each direction in the vicinity of the site, with kerbside parking generally permitted.

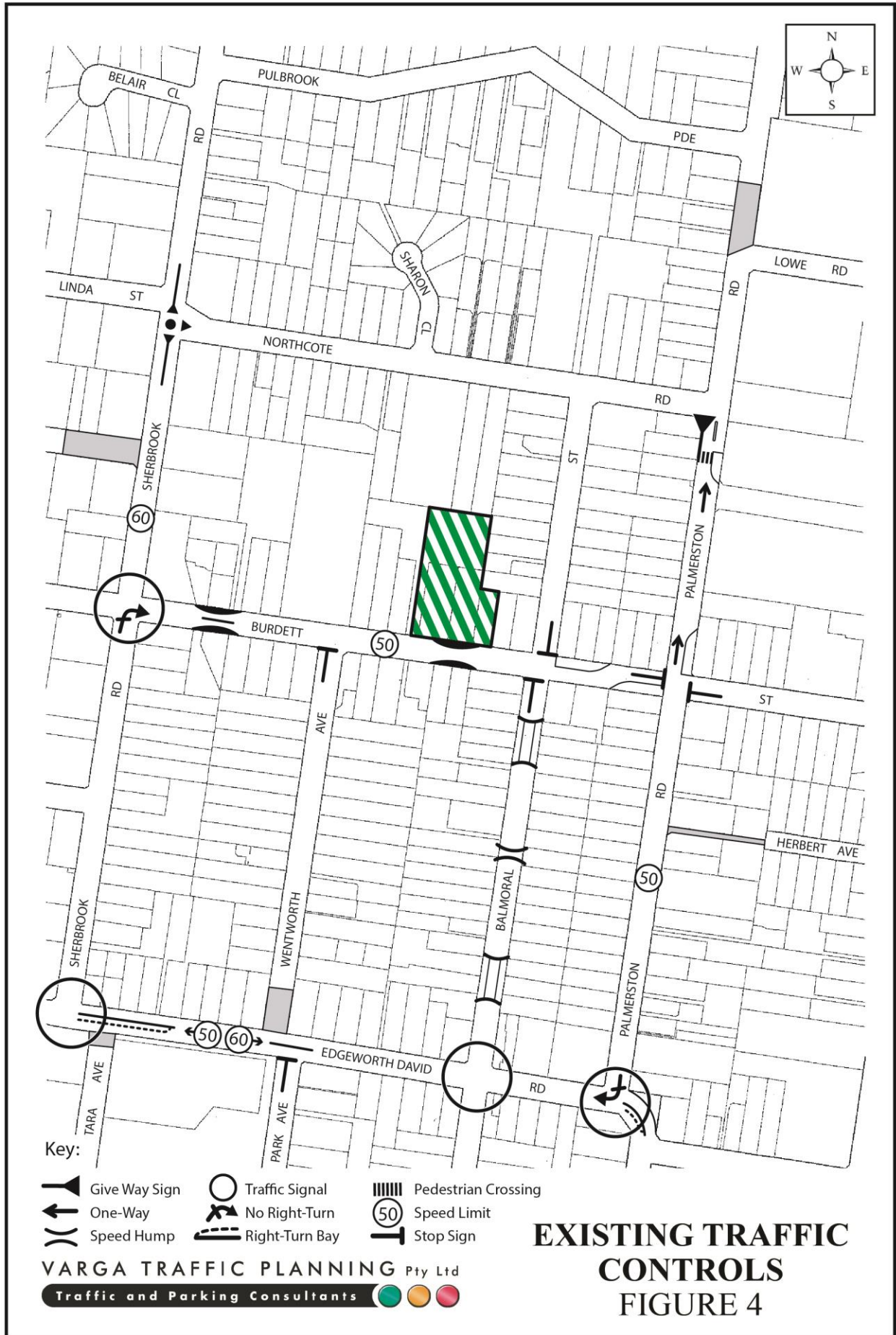
Burdett Street is a local, unclassified road which is primarily used to provide vehicular and pedestrian access to frontage properties. Kerbside parking is generally permitted on both sides of the road.

Existing Traffic Controls

The existing traffic controls which apply to the road network in the vicinity of the site are illustrated on Figure 4. Key features of those traffic controls are:

- a 60 km/h SPEED LIMIT which applies to Sherbrook Road
- a 50 km/h SPEED LIMIT which applies to Burdett Street and all other local roads in the area





- TRAFFIC SIGNALS in Edgeworth David Avenue where it intersects with Sherbrook Road, Balmoral Street and Palmerston Road
- TRAFFIC SIGNALS in Sherbrook Road where it intersects with Burdett Street, with a NO RIGHT TURN restriction for northbound along Sherbrook Road
- STOP SIGNS in Wentworth Avenue and also Balmoral Street where it intersects with Burdett Street
- STOP SIGNS in Burdett Street where it intersects with Palmerston Road
- TWO-WAY SLOW POINT TREATMENTS located along Burdett Street, including directly outside the site frontage.

Existing Public Transport Services

The 575 bus service operates 7 days per week between Macquarie University and Hornsby Station Interchange. Services from these bus stops operate at least once per hour between 06:00 & 18:00 every weekday and between 07:00 & 16:00 every Saturday.

The abovementioned bus service can also be used to interchange with connecting train services at Hornsby, Turrumurra, Pymble and Macquarie University Railway Stations. The site is therefore located in an “accessible area” as defined in the *SEPP (Housing for Senior or People with a Disability) 2004*.

Projected Traffic Generation

An indication of the traffic generation potential of the amended development proposal is provided by reference to the Roads and Maritime Services publication *Technical Direction TDT 2013/04a August 2013*).

The RMS *Technical Direction* is based on extensive surveys of a wide range of land uses and nominates the following traffic generation rate which is applicable to the development proposal:

Housing for Seniors

0.4 peak hour vehicle trips per dwelling

The RMS *Guidelines* also make the following observation in respect of housing for aged and disabled persons:

Definition

Residential accommodation which may take any building form which is to be intended to be used permanently as housing for the accommodation of aged or disabled persons. The hostel may consist of residencies or a grouping of 2 or more self-contained dwellings and include facilities such as staff accommodation, chapels, medical rooms, recreation facilities, shops and/or therapy rooms.

It is pertinent to note that, whilst the above traffic generation rate was based on RMS surveys of 10 sites offering a range of accommodation types, the surveyed sites were dominated by facilities with *Independent Living Units* and hostels which “cater for active retirees with cars”. Only two of the sites surveyed included a component of “high care” beds in a Residential Aged Care Facility.

In practice, the actual traffic generation potential of the proposed development is likely to be *less* than the rate specified above, as RACF beds tend to generate *less traffic* activity than ILUs. The RMS *TDT 2013/04a* also makes the following observations:

“Note that morning site peak hour does not generally coincide with the network peak hour”.

Furthermore, the RACF site peak will also *not* coincide with the network peak period as the morning shift change will occur *prior to* the morning road network peak, which is typically 8:00am-9:00am, whilst the afternoon shift change will occur *prior to* the afternoon road network peak, which is typically 5:00pm-6:00pm.

Peak visitor periods for the RACF will likely be during the middle of a weekday and on weekends when on-road traffic is much lower than the morning and afternoon weekday peak periods.

Thus, the traffic generation potential of the proposed development is likely to be *somewhat* less than is suggested by the above *housing for seniors* traffic generation rate.

In any event, application of the above traffic generation rates to the 98 beds outlined in the amended development proposal yields a traffic generation potential of approximately 39 vehicle trips per hour during commuter peak periods.

That projected future level of traffic generation potential should however, be offset or *discounted* by the volume of traffic which could reasonably be expected to be generated by the existing and previously approved uses of the site, in order to determine the *nett increase (or decrease)* in traffic generation potential expected to occur as a consequence of the development proposal.

Application of the *dwelling house* traffic generation rate nominated in the RMS's *TDT 2013/04a* to the existing dwelling house on the No.71 Burdett Street site yields a traffic generation potential of approximately 1 vehicle trip.

Furthermore, as noted in the foregoing, No.65-69 Burdett Street was approved for the construction of a new seniors living residential townhouse development, comprising 22 dwellings.

Application of the above traffic generation rates to the various components of the existing and previously approved development yields a traffic generation potential of approximately 10 vph during weekday peak periods, as set out below:

Existing & Previously Approved Traffic Generation Potential

Dwelling house (1 dwelling):	1.0 vph
Previously approved seniors living development (22 dwellings):	8.8 vph
TOTAL TRAFFIC GENERATION POTENTIAL:	9.8 vph

Accordingly, it is likely that the proposed amended development will result in a *nett increase* in the traffic generation potential of the site of approximately 29 vph during the weekday peak periods, as set out below:

**Projected Nett Increase in Peak Hour Traffic Generation Potential
of the Site as a Consequence of the Development Proposal**

Projected Future Traffic Generation Potential:	39.2 vph
Less Existing & Previously Approved Traffic Generation Potential:	-9.8 vph
NETT INCREASE IN TRAFFIC GENERATION POTENTIAL:	29.4 vph

That projected *nett increase* in traffic activity as a consequence of the development proposal is minimal, consistent with the planning controls which apply to the site and will not have any unacceptable traffic implications in terms of road network capacity.

4. PARKING IMPLICATIONS

Existing Kerbside Parking Restrictions

The existing parking restrictions which apply to the road network in the vicinity of the site are illustrated on Figure 5. Key features of those parking restrictions are:

- NO STOPPING / NO PARKING restrictions in Burdett Street in the vicinity of the Wentworth Avenue and also Balmoral Street intersections
- generally UNRESTRICTED kerbside parking elsewhere along both sides of Burdett Street and throughout the local area, including along the entire site frontage.

Off-Street Parking Provisions

The off-street parking requirements applicable to the amended development proposal are specified in the *SEPP (Housing for Seniors or People with a Disability) 2004* document in the following terms:

Division 2 Residential Care Facilities

48 Standards that cannot be used to refuse development consent for residential care facilities

- (2) A consent authority must not refuse consent to a development application made pursuant to this Chapter for the carrying out of a development for the purpose of a residential care facility on any of the following grounds:

(d) Parking for residents and visitors: if at least the following is provided:

- (i) 1 car space for each 10 beds in the residential care facility (or 1 parking space for each 15 beds if the facility provides care only for persons with dementia),
and
- (ii) 1 car space for each 2 persons to be employed in connection with the development and on duty at any one time,
and
- (iii) 1 parking space suitable for an ambulance.



Application of the above *SEPP* car parking rates under Item (d) to the 98 beds and 40 staff outlined in the development proposal, yields an off-street car parking requirement of 31 spaces, as set out in the table below:

Residential aged care facility (98 beds):	9.8 spaces
Staff (40 staff):	20.0 spaces
Ambulance:	1.0 space
TOTAL:	30.8 spaces

The proposed development makes provision for a total of 50 off-street car parking spaces, *plus* a dedicated at-grade ambulance parking space, thereby *comfortably* satisfying the *SEPP* requirements.

An overhead clearance of 3.5m is provided, clear of structures/services, throughout the ambulance circulation areas in accordance with NSW Ambulance service vehicle requirements.

The geometric design layout of the proposed car parking facilities has been designed to comply with the relevant requirements specified in the Standards Australia publications *Parking Facilities Part 1 - Off-Street Car Parking AS/NZS2890.1:2004* and *Parking Facilities Part 6 – Off-Street Parking for People with Disabilities AS2890.6* in respect of parking bay dimensions, ramp gradients and aisle widths.

Loading/Service Provisions

Loading/servicing for the proposed RACF is now expected to be undertaken by commercial vehicles up to and including Council's 10.5m long garbage truck, which has an overhead clearance requirement of 4.2m. A dedicated loading area is again to be located at the bottom of the basement access ramp which includes a dedicated manoeuvring area.

The manoeuvring area has been designed to accommodate the swept turning path requirements of these 10.5m long trucks, allowing them to enter and exit the site whilst travelling in a forward direction at all times.

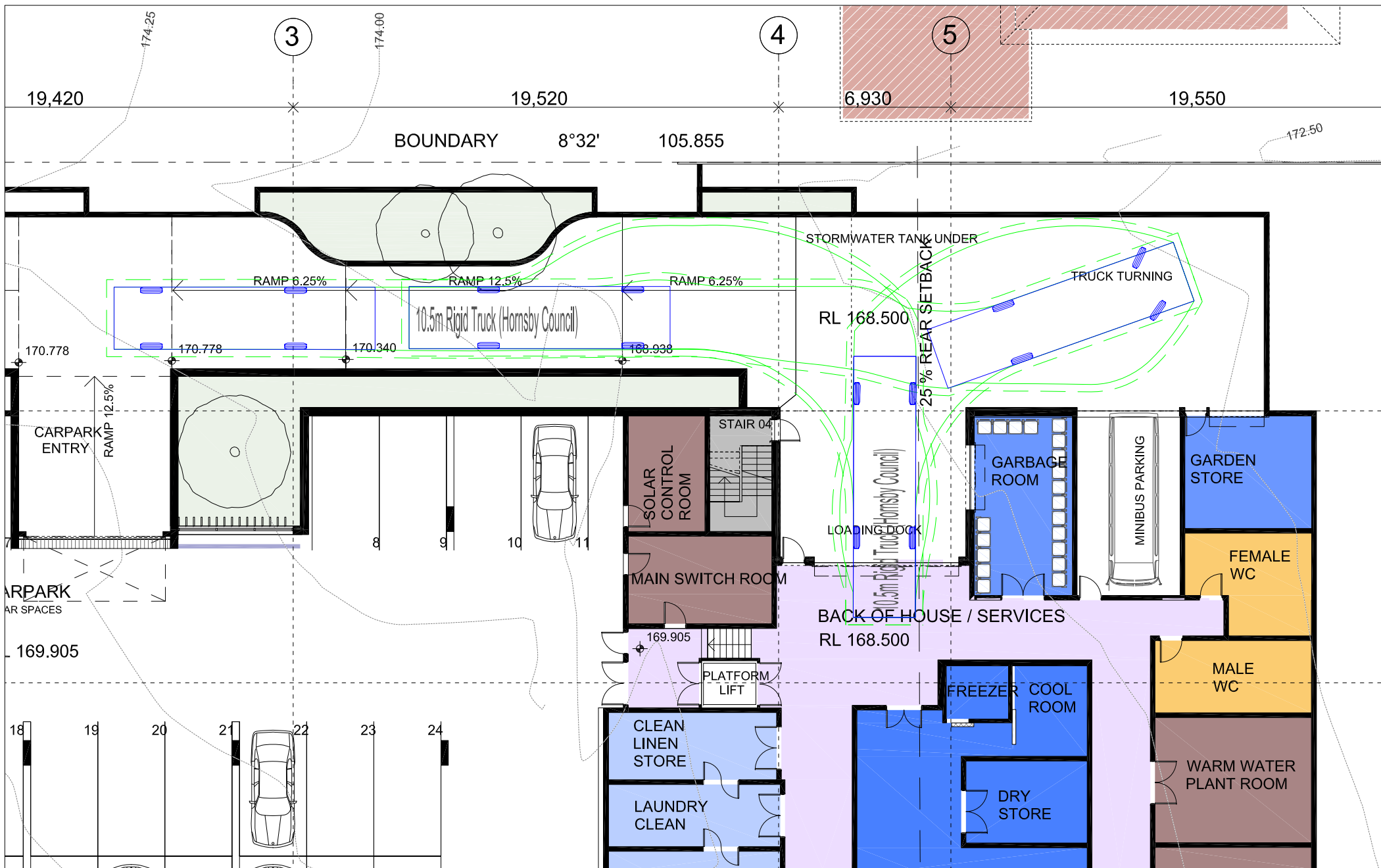
The proposed development also makes provision for respective ambulance and mini-bus parking areas.

The mini-bus parking area within the basement will be capable of accommodating a community mini-bus similar in size to a 7m long Toyota Coaster.

The geometric design layout of the proposed loading facilities has been designed to comply with the relevant requirements specified in the Standards Australia publication *Parking Facilities Part 2 - Off-Street Commercial Vehicle Facilities AS2890.2* for 10.5m long trucks in respect of loading dock dimensions, service area requirements, 7m long transitions and ramp gradients.

A number of *swept turning path* diagrams have been prepared using the *Autodesk Vehicle Tracking 2019* program in accordance with the requirements of *AS2890.1* and *AS2890.2*, confirming that all of these vehicles will be able to enter and exit the site in a forward direction at all times. The *swept turning path* diagrams are reproduced in the following pages.

In summary, the proposed parking and loading facilities satisfy the relevant requirements specified in *SEPP 2004*, as well as the Australian Standards, and it is therefore concluded that the proposed development will not have any unacceptable parking or loading implications.



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 Sydney, Australia

PROJECT
 RESIDENTIAL DEVELOPMENT



DRAWING TITLE
10.5M LONG RIGID TRUCK TURNING PATH
 Entering / Exiting Loading Bay Area

ADDRESS
 65-71 Burdett Street, Hornsby

PROJECT NO.
 19500

REVIEWED
 CHRIS PALMER

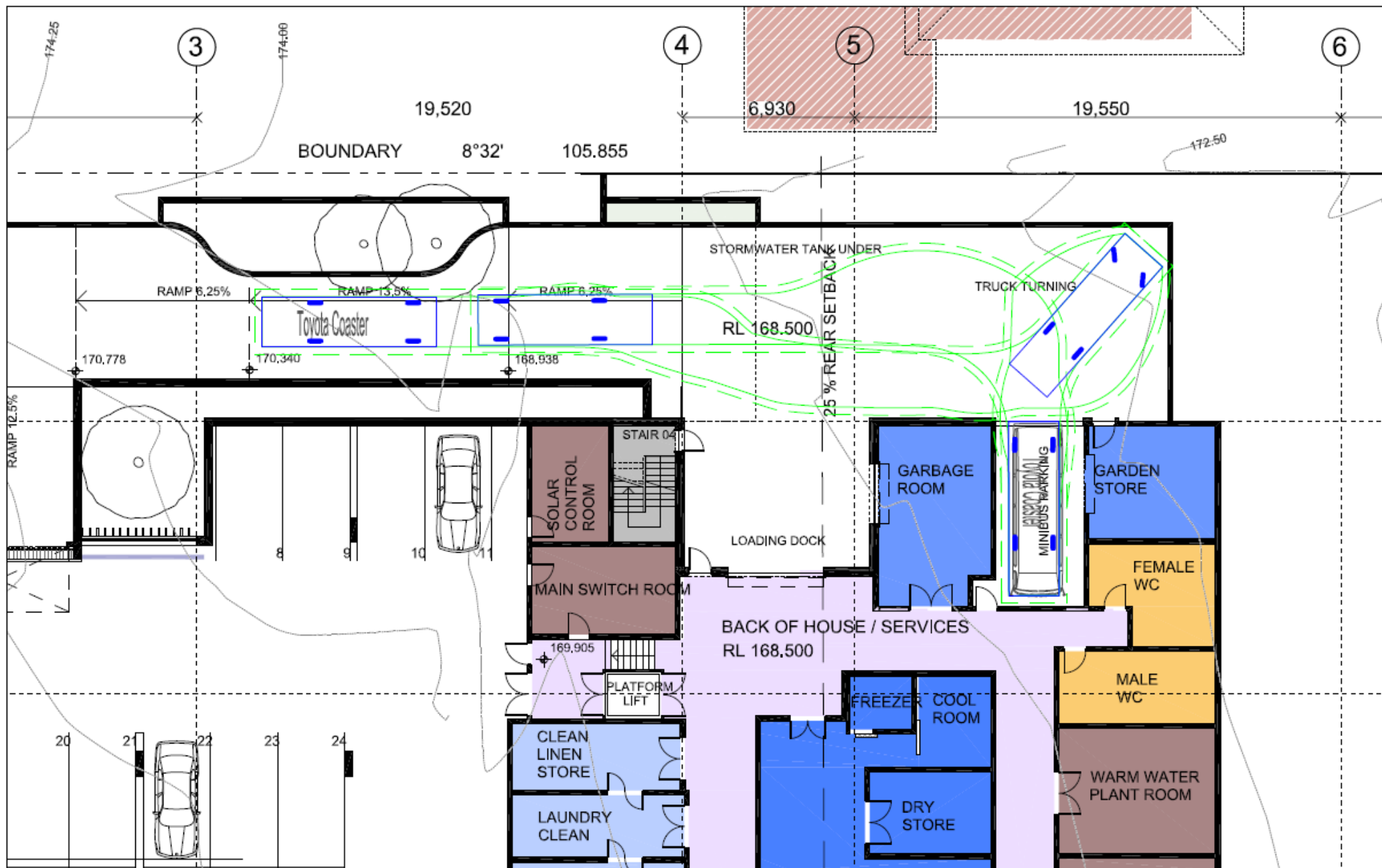
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DATE DRAWN
 2020-10-21

PREPARED
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PROJECT
 RESIDENTIAL DEVELOPMENT



7M LONG TOYOTA COASTER TURNING PATH
 Entering / Exiting Bus Parking Area

ADDRESS
 65-71 Burdett Street, Hornsby

PROJECT NO.
 19500
 DESIGNED
 CHRIS PALMER

1:200 @ A4

DATE DRAWN
 2020-11-12
 APPROVED
 DONALD LEE

VARGA TRAFFIC PLANNING Pty Ltd
 Transport, Traffic and Parking Consultants



(B)

(C)

(D)

(E)

A

B

BURDETT STREET
SRV - Small Right Vehicle

BOUNDARY 278°18' 66.34'

RAMP 4.5%

EXIT

14,466



B

A

C

B

D

E

BURDETT STREET

B99 VEHICLE (6.3m radius)

BOUNDARY 278°18' 66.34'

RAMP 4.5%

B99 VEHICLE (6.3m radius)

B99 VEHICLE (6.3m radius)

EXIT

AMBULANCE BAY

14,466

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PROJECT
SENIORS LIVING DEVELOPMENT



DRAWING TITLE
B99 VEHICLE TURNING PATHS
Entering / Exiting Pick-up & Drop-off Area

1:200 @ A4

ADDRESS
65-71 Burdett Street,
Hornshill

PROJECT NO.
19500
REVIEWED
CHRIS PALMER

DATE DRAWN
2019-12-9
DRAWN BY
DONALD LEE

VARGA TRAFFIC PLANNING Pty Ltd
Transport, Traffic and Parking Consultants

