Warrawong Community Health Centre

Review of Environmental Factors – Transport Assessment

Prepared for: Health Infrastructure

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Revision

Revision	Date	Comment	Prepared By	Reviewed By	Approved By
A-Dr	7 November 2023	Draft	William Xie	Brett Maynard	Brett Maynard
A	23 November 2023	Final	William Xie	Brett Maynard	Brett Maynard
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For and on behalf of

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Acknowledgment of Country

In the spirit of reconciliation, Stantec acknowledges the Traditional Custodians of country throughout Australia and their connections to land, sea and community. We pay our respect to their Elders past and present, and extend that respect to all Aboriginal and Torres Strait Islander peoples.

Limitations

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1. Introduction

1.1 Background

The NSW Government has committed to a $100 billion infrastructure pipeline over the next four years, $10.7 billion of which will be spent on new and upgraded health facilities. Underpinning this capital spend is the Government's economic reform and recovery strategy. In September 2020, the NSW Government committed to more than $700 million to deliver new and improved health facilities for the Illawarra Shoalhaven Health District to meet the needs of the growing community.

The project is the largest capital investment in the Illawarra Shoalhaven Local Health District (ISLHD) and involves several phases of work at Bulli, Wollongong, Warrawong and Shellharbour. The core of this project is the New Shellharbour Hospital (NSH) where an indicative 246 beds and estimated 1,106 FTE staff are intended to be provided on the greenfield site.

A secondary objective of the project is delivery of the Warrawong Community Health Centre (WCHC), and the subject of this report, which aims to provide various community health facilities for the region. The WCHC would occupy a portion of the existing Port Kembla Hospital (PKH) site providing 27 rooms including consulting, audiology testing, interview, procedure, dispensary and therapy/ gymnasium and group sessions. The Port Kembla Hospital will be ultimately decommissioned following the completion of New Shellharbour Hospital.

Health Infrastructure engaged Stantec to prepare a transport assessment for the Review of Environmental Factors for the WCHC.

1.2 Purpose of this Report

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

- existing pedestrian and transport conditions surrounding the site
- suitability of the proposed parking in terms of supply (quantum) and layout
- service vehicle requirements
- pedestrian and bicycle requirements
- the traffic generating characteristics of the proposal
- suitability of the proposed access arrangements for the site
- the operational and overview construction transport impact of the proposal
- potential travel demand management measures to minimise the transport impacts.

1.3 References

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

- several assessments of the site and surrounds
- Wollongong Local Environmental Plan 2009 (LEP 2009)
- Wollongong Development Control Plan 2009 (DCP 2009)
- Australian Standard/ New Zealand Standard, Parking Facilities, Part 1: Off-Street Car Parking AS/NZS 2890.1:2004
- Australian Standard, Parking Facilities, Part 2: Off-Street Commercial Vehicle Facilities AS 2890.2:2018
- Australian Standard/ New Zealand Standard, Parking Facilities, Part 6: Off-Street Parking for People with Disabilities AS/NZS 2890.6:200
- Health Infrastructure – Sustainable Hospital Car Park Investment Program (SHCPIP) Volume 3 – Hospital Car Park Guidelines V1.2 – May 2019 (HI Guidelines)
- architectural plans prepared by Cox Architecture + Silver Thomas Hanley
- civil engineering plans prepared by enstruct
- other documents referenced in the report.

2. Existing Conditions

2.1 Location

The proposed WCHC will occupy the eastern portion of the existing Port Kembla Hospital site once the hospital services have been relocated to the NSH and other ISLHD facilities. Existing buildings on the eastern portion of the site currently contain a 24-place childcare centre and some 3,700 square metres of office space used by Illawarra Transitional Aged Care Services, First Step, Interpreter Services, Telehealth and Workforce/ Work Health Safety. The existing office space is understood to be primarily for staff, with minimal visitors generated and as such, the existing 47 on-site car spaces provided in this area are allocated to hospital staff, with two drop-off bays provided for the childcare centre.

The subject site is located at 89-91 Cowper Street, Warrawong and is legally described as Lot 1/ DP593925, Lots 1 to 4/ DP394363, Lots 21 to 60/ DP23670, and Lot 1/ DP129519. The site occupies a total area of about 4.3 hectares, with a frontage of about 225 metres to Cowper Street (north), 60 metres to Clive Avenue and 270 metres to Fairfax Road (east).

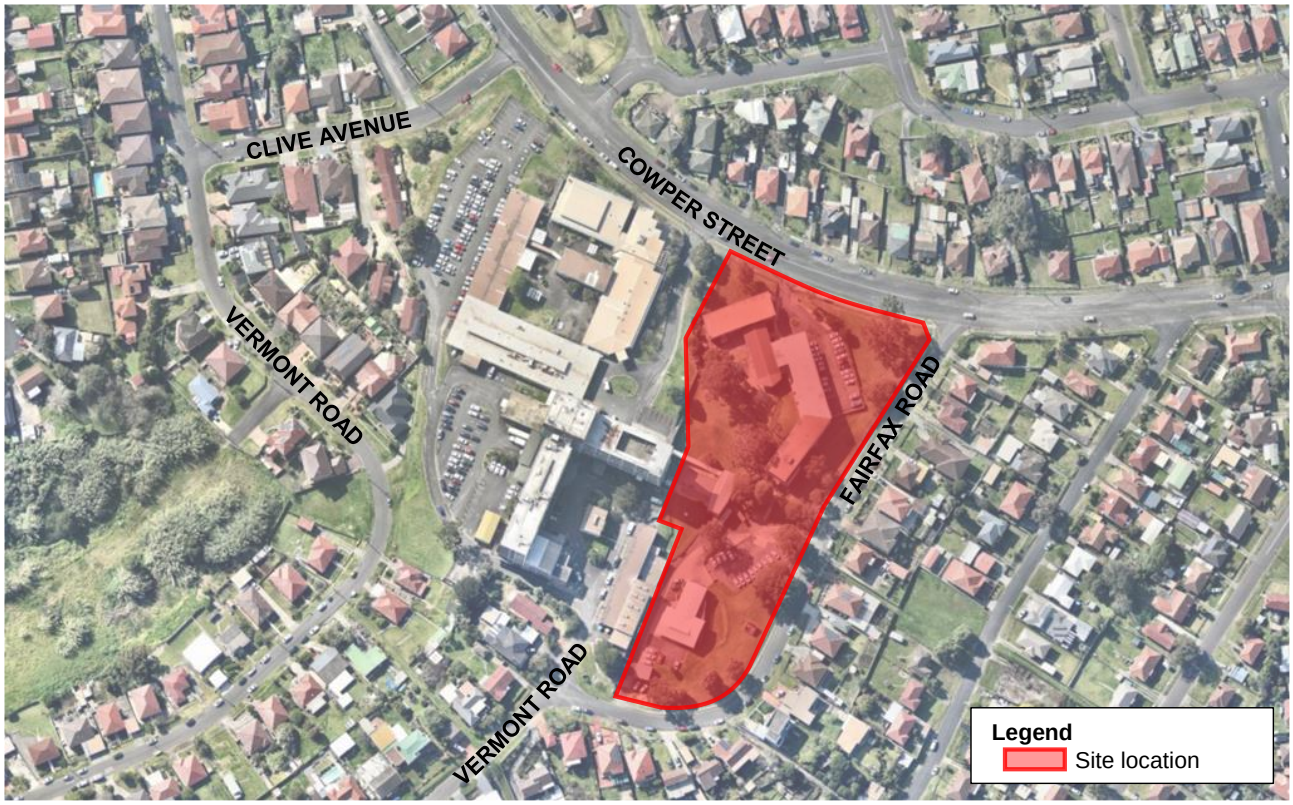
It has a land use classification of R2 Low Density Residential and is primarily surrounded by low density residential dwellings with retail/ commercial business located further east of the site. The site is located about 1.5 kilometres south of Port Kembla North and two kilometres east of Port Kembla train stations.

The location of the broader area that includes the subject site and its surrounding environs is shown in Figure 2.1, aerial views in Figure 2.2 and land zoning map in Figure 2.3.

Figure 2.1: Subject Site and Its Environs

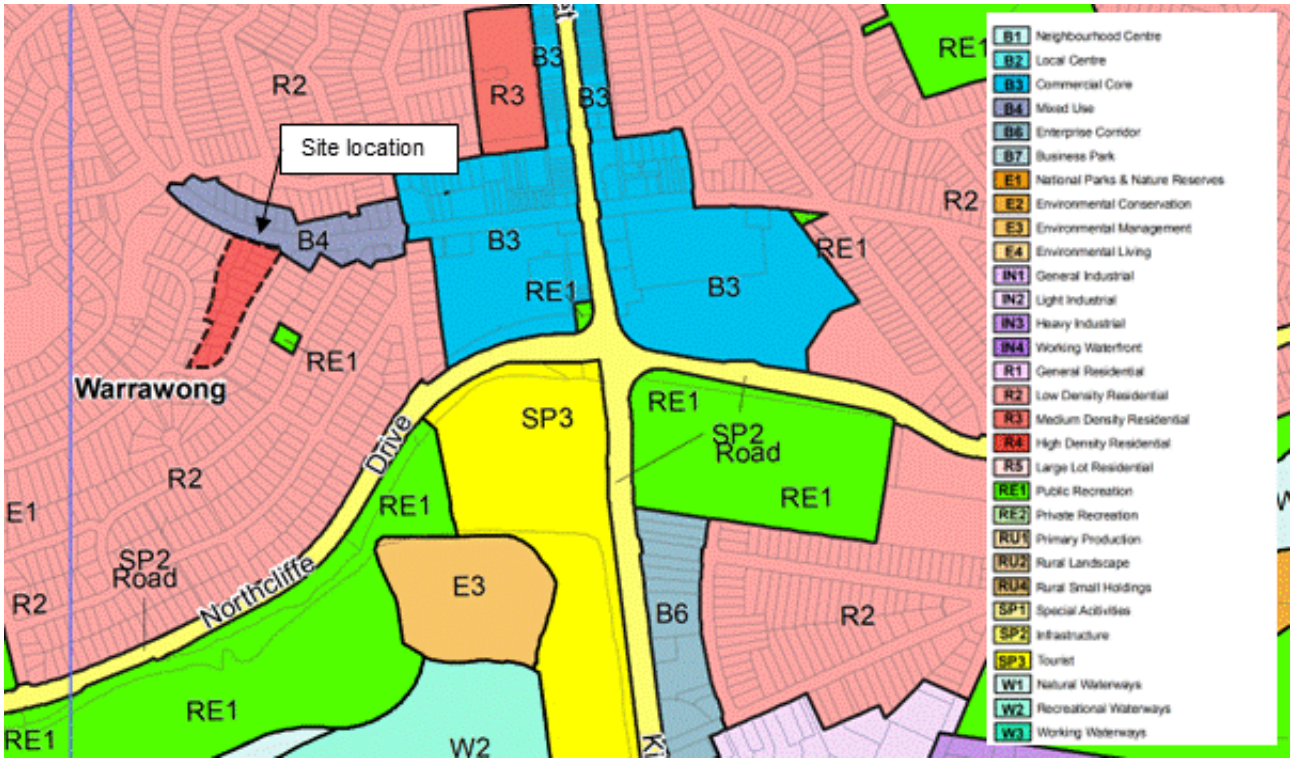
Base image source: https://www.openstreetmap.org/

Figure 2.2: Nearmap aerial view



Base image source: Nearmap, accessed 22 December 2022

Figure 2.3: Land zoning map



Base image source: Wollongong LEP 2009

2.2 Road Network

2.2.1 Road Hierarchy

Roads are classified according to the functions they perform. The main purpose of defining a road's functional class is to provide a basis for establishing the policies which guide the management of the road according to their intended service or qualities.

In terms of functional road classification, State roads are strategically important as they form the primary network used for the movement of people and goods between regions, and throughout the State. Transport for NSW is responsible for funding, prioritising and carrying out works on State roads. State roads generally include roads classified as freeways, state highways, and main roads under the Roads Act 1993, and the regulation to manage the road system is stated in the Australian Road Rules.

Transport for NSW defines four levels in a typical functional road hierarchy, ranking from high mobility and low accessibility, to high accessibility and low mobility. These road classes are:

Arterial Roads – Controlled by Transport for NSW, typically no limit in flow and designed to carry vehicles long distance between regional centres.

Sub-Arterial Roads – Managed by either Council or Transport for NSW under a joint agreement. Typically, their operating capacity ranges between 10,000 and 20,000 vehicles per day, and their aim is to carry through traffic between specific areas in a sub region or provide connectivity from arterial road routes (regional links).

Collector Roads – Provide connectivity between local sites and the sub-arterial road network, and typically carry between 2,000 and 10,000 vehicles per day.

Local Roads – Provide direct access to properties and the collector road system and typically carry between 500 and 4,000 vehicles per day.

2.2.2 Surrounding Road Network

Cowper Street

Cowper Street is a collector road aligned in an east-west direction along the sites northern boundary and would be a key access route for vehicles to the WCHC. It has one travel lane in each direction set within a 16-metre-wide carriageway intersecting with King Street, a key north-south arterial road to the east. Cowper Street has a posted speed limit of 50 kilometres per hour transitioning to 40 kilometres per hour east of the site near the Warrawong retail/ commercial shopping strip. Unrestricted kerbside parking is generally permitted on both sides of the road, with some time restrictions applied to spaces fronting the existing hospital and towards the east.

Vermont Road, Fairfax Road and Clive Avenue

Vermont Road, Fairfax Road and Clive Avenue are local roads along the sites southern, eastern and western boundaries, respectively. All roads primarily provide access to local residential dwellings with Fairfax Road and Vermont Road also currently providing staff/ service vehicle access to the existing Port Kembla Hospital.

Vermont Road, Fairfax Road and Clive Avenue have a default speed limit of 50 kilometres per hour imposed, and unrestricted kerbside parking is permitted on both sides of all roads.

The surrounding local road network is likely to provide on-street parking with specific demand on each street expected to be low.

2.2.3 Site Observations

Stantec completed a site visit on 2 June 2022 to observe the surrounding road network and general traffic conditions during the key morning and afternoon peak periods. Overall, the surrounding road network operates well with spare capacity at surrounding intersections.

Minimal traffic volumes were observed along the site frontage to Cowper Street with the surrounding road network exhibiting conditions expected for a road functioning as a collector road.

2.3 On-Street Parking Surveys

Stantec commissioned on-street car parking inventory and demand surveys adjacent to the existing Port Kembla Hospital. The parking surveys were completed across Tuesday 26 July 2022.

Parking Supply

Parking surveys focused on both on-street and on-site locations. The assessed on-street extent included 68 mostly unrestricted spaces in the vicinity of the site, defined as follows:

- 25 spaces on Cowper Street between Fairfax Road and Clive Avenue (including 14 with two-hour time restrictions).
- 12 spaces on Clive Avenue (50 metres west of Cowper Street).
- 31 spaces on Fairfax Road (between Cowper Street and Vermont Road).

The parking survey extent is shown in Figure 2.4.

Figure 2.4: Port Kembla Hospital parking survey extent

Base image source: Nearmap

Parking Demand

Parking demand was generally high between 8:00am and 3:00pm with a peak on-street demand of 75 per cent at 10:00am. The existing on-street demand is primarily associated with the hospital, with additional capacity anticipated once the hospital is decomissioned.

The on-street parking demand is shown in Figure 2.5.

Figure 2.5: On-street parking demand

2.4 Active Transport

Footpaths are generally provided on at least one side of all surrounding streets and on both sides of Cowper Street, with continuous connections to all surrounding public transport stops.

There are no cycling paths near the site however the local road network provides suitable conditions for cyclists and connection to the share paths on King Street and Northcliff Drive south of the site. The surrounding cycle network is shown in Figure 2.6.

Figure 2.6: Surrounding cycle network

Base image source: TfNSW Cycleway Finder

2.5 Public Transport

The site has adequate access to public transport services, with bus stops located on the Cowper Street frontage (immediately outside the site), First Avenue (about 150 metres east of the site) and King Street (about 550 metres east of the site). The surrounding bus network is summarised in Table 2.1, with the routes directly servicing the site in bold.

Table 2.1: Public Transport Provision

Route	Description	Frequency
34	Wollongong to Warrawong via Unanderra (loop service)	30 mins/ 60 mins
43	**Port Kembla to Mt Brown (loop service)**	**60 mins**
51	Oaks Flat to Wollongong via Stockland Shellharbour	45 mins/ 60 mins
53	Shellharbour to Wollongong via Shell Cove & Warrawong	60 mins
57	Wollongong to Shellharbour via Warrawong (loop service)	60 mins
65	**North Wollongong to Port Kembla (loop service)**	**60 mins**

The surrounding bus routes are shown in Figure 2.7.

Figure 2.7: Surrounding bus network

Base image source: Premier Illawarra network map, (premierillawarra.com.au/pdf/maps)

2.6 Existing Travel Behaviour

Journey to Work (JTW) data has been sourced from the Australian Bureau of Statistics (ABS) 2016[1] census and provides an indication of existing travel patterns to the surrounding area. Figure 2.8 details the catchment of census data analysed which corresponds to the ABS 2016 Destination Zone (DZN) 115460003.

[1] Greater Sydney (including Wollongong and Shellharbour) was subject to COVID-19 lockdowns on 2021 Census night. As such, 2021 JTW data could not be considered typical, and as such 2016 data has been referenced.

Figure 2.8: Destination Zone containing PKH (DZN 115460003)

Base image source: ABS Maps

The JTW data indicates that 1,060 people work within the selected Destination Zone.

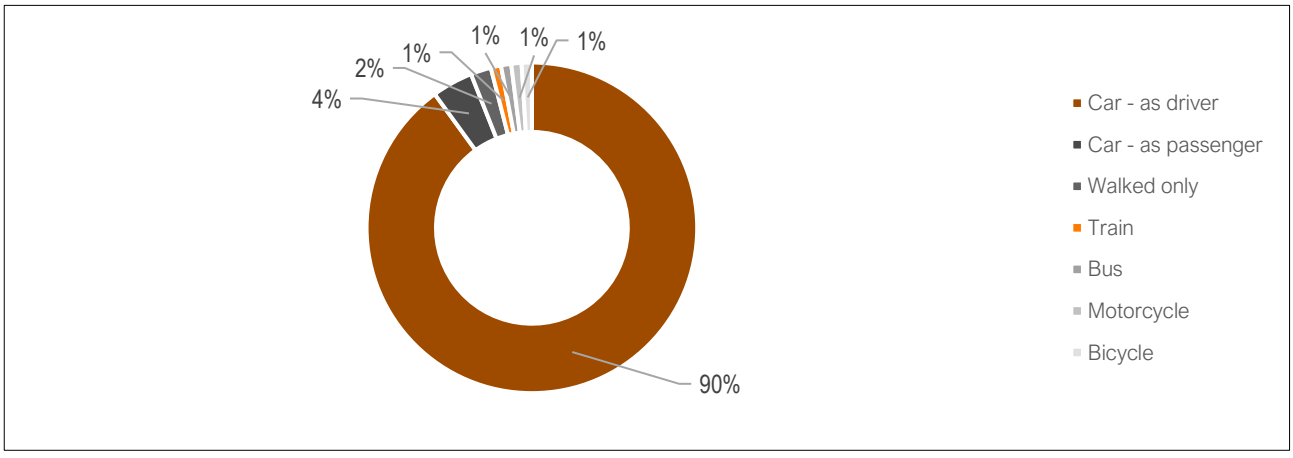
Table 2.2 shows the distribution of travel modes by workers employed in the Destination Zone, adjusted for those that did not work, worked from home or who were not applicable. Data indicates that 93 per cent of workers travel to the area via private car as a driver or passenger. Public and active transport accounts for five per cent of all trips.

Table 2.2: Development Schedule

Mode of Travel	Mode Share (%) [1]
Car, as driver	90
Car, as passenger	4
Walked only	2
Train	1
Motorbike	1
Bicycle	1
Bus	1

[1] Does not include residents who worked at home, did not go to work or not applicable.

Figure 2.9: Existing travel mode share to the local area surrounding PKH



2.7 Crash History

Analysis of the most recent five-year period of available crash data (2017-2021) has also been completed based on reported crash data provided by TfNSW. The locations of the crash data for the five-year period are shown in Figure 2.10 and detailed in Table 2.3.

Figure 2.10: Reported crash history from 2017 to 2021

Base image source: Transport for NSW Centre for Road Safety Crashes Map

Table 2.3: Recorded crashes from 2017 to 2021

Location	Number of Crashes	Number of People Injured
Vermont Road	2	2
Cowper Street	5	2
Cowper Street/ King Street intersection	7	7
King Street	4	4
Total	**18**	**15**

The following key statistics can be drawn from the crash data:

- No fatalities were recorded during the reporting period
- 18 crashes occurred during the reporting period, resulting in 15 injuries.
- No crashes occurring along the site frontage.
- Majority of crashes were of minor or moderate nature accounting for 78 per cent.

The crash history does not indicate any safety concern in the immediate area of the site. Moreover, the proposal could result in a reduction in traffic volumes within the area.

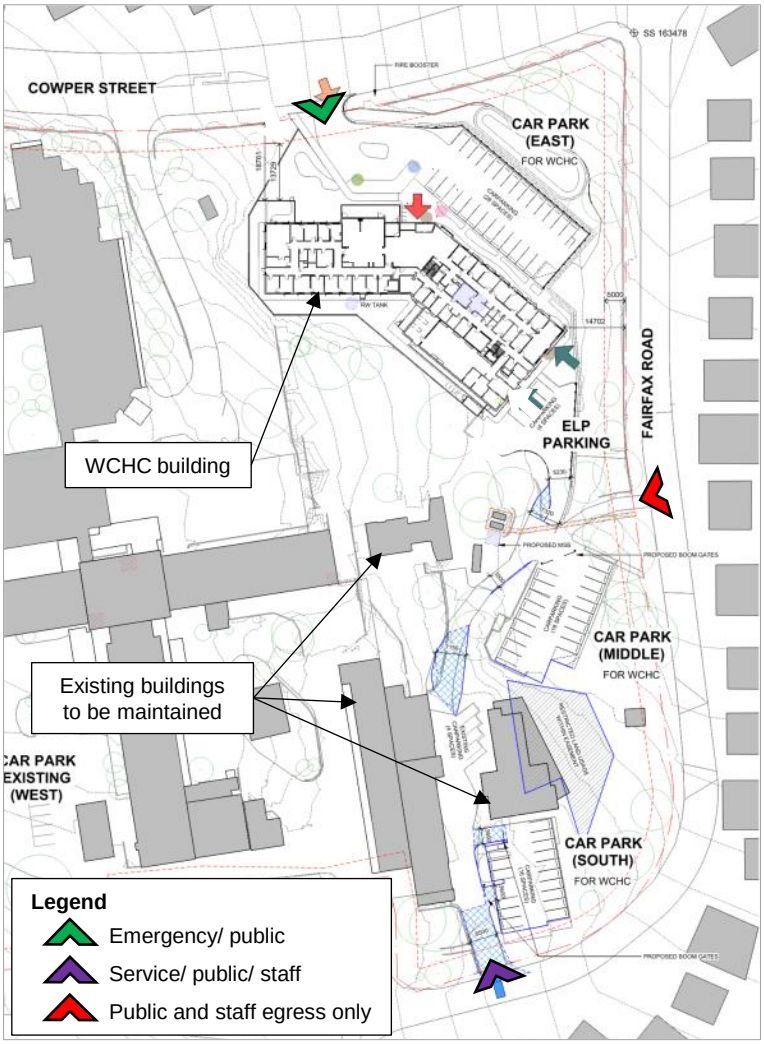
3. Development Proposal

3.1 Overview

The proposal includes construction of a community health centre providing 27 rooms including consulting, audiology testing, interview, procedure, dispensary and therapy/ gymnasium, with a workforce of 65 full-time equivalent (FTE) staff. The centre will be constructed on the eastern portion of the existing Port Kembla Hospital site, the hospital ultimately being decommissioned following the completion of New Shellharbour Hospital. As mentioned, existing buildings on the eastern portion of the site contain a 24-place childcare centre and some 3,700 square metres of office space used by Illawarra Transitional Aged Care Services, First Step, Interpreter Services, Telehealth and Workforce/ Work Health Safety. The existing office space is understood to be primarily for staff, with minimal visitors generated and as such, all existing 47 on-site car spaces provided in this area are allocated to staff, with two drop-off bays provided for the childcare.

The proposal includes three at-grade car parks that are proposed to accommodate visitor and staff parking on site. Loading is also provided immediately south of the WCHC building. A site layout plan is provided in Figure 3.1.

Figure 3.1: Site layout plan



Base plan: Drawing number 130562-WC-CAS-AR-DWG-11-99-9001, revision A, by Cox Architecture and Silver Thomas Hanley dated 21 February 2024

3.2 Site Access and Parking

Two site access driveways (two-way) and one exit driveway are proposed for use for the site. The access driveways are proposed to be upgraded, while the exit driveway is proposed to be maintained under its current arrangement. One two-way access driveway is via Cowper Street, which will be to accommodate visitors and emergency vehicles (if required). Another two-way access driveway is via Fairfax Road, which will be accessed by light vehicles (staff and visitor) and

service vehicles. The one-way exit driveway is further north along Fairfax Road, which is only suitable to accommodate light vehicle egress and discussed further in subsequent sections of this report.

A total of 64 parking spaces are provided on site for staff and visitors which are distributed across across three car parks and the loading area. One car park is directly adjacent to the WCHC building being an upgrade of an existing car park to accommodate visitor parking. The other two car parks are proposed further south of the WCHC building, one being an upgrade of an existing car park to accommodate visitor and staff parking and the other being an expansion of another existing car park to accommodate staff parking. Loading and four visitor parking spaces are also provided immediately south of the WCHC building.

3.3 Waste Collection and Loading Facilities

Waste collection and loading is proposed to occur on the southern side of the WCHC building, with vehicles accessing via the southernmost access off Fairfax Road. There is one loading bay provided on site, accommodating up to an 8.8-metre medium rigid vehicle (MRV). Further details are provided in Section 5.

4. Parking Assessment

4.1 Car Parking

4.1.1 Parking Requirements

Parking requirements for the WCHC development have been established using a combination of the Wollongong Development Control Plan 2009 (DCP) and the anticipated visitor parking demand.

A review of the Wollongong DCP 2009 indicates that a medical centre use is most closely aligned with a community health centre, which is consistent with other similar developments in recent years. However, the operation and function of a community health centre is not entirely consistent with a typical medical centre. A key difference that influences parking demand is the visitation profile, with a community health centre having visitors more spread out through the day for longer duration of stays, given the wider range of services provided, whereas a medical centre is typically focused on single-purpose higher turnover visits to general practitioners (and an associated full visitation schedule and/or queuing of visitors).

The staff parking requirement based on medical centre rates in the Wollongong DCP 2009 has been adopted and presented in Table 4.1, which suggests that 22 parking spaces are required for staff of the WCHC.

Table 4.1: Staff Parking Requirement

Type	Size/ No.	Parking Rate	Parking Requirement
Staff	65 FTE staff	1 space/ 3 employees	22 spaces

Recognising that the DCP medical centre parking rates for visitors (based on rooms) do not allow for the range of actual uses, where all rooms are not occupied at once and a single visitor may be required to use several rooms during their visit (e.g. interview room, consulting room, dispensary), while the group rooms will be used by several visitors at once, a visitor parking demand assessment has been completed to understand appropriate parking requirement.

Various assumptions have been made for the visitor parking demand assessment around the number of rooms occupied, visitors (whether individual or family) per room, and proportion driving to the site. The assumptions are detailed as follows, based on information provided by the project team and Stantec's experience with other facilities:

- 80 per cent rooms occupied at any one time
- Visitors per room considers individual or family and accounts for visitors waiting
- Parental classes have been analysed for the two group rooms (total capacity for 46 people) being the likely use of these rooms during the daytime when the centre is at peak operation
- 80 per cent of visitors driving.

The demand assessment is presented in Table 4.2 and suggests that 45 spaces would be required for visitors.

Table 4.2: Visitor parking demand assessment

Proposed Rooms	Number of Rooms	Visitors per Room	Parking Demand
Interview Rooms	7	1.5 [1]	7
Consulting Rooms	15	1.5	14
Audiology Testing Rooms	1	1.5	1
Procedure Rooms	1	1.5	1
Group Rooms	2	23	19 [2]
Dispensary	-	-	0
Therapy/ Gym	1	4 [3]	3
		Total (Visitors)	45 spaces

[1] assumes there is one visitor in each room along with one visitor waiting for an appointment for every two rooms
[2] considers one vehicle per two visitors (i.e. parent and child)
[3] based on one visitor per 10sqm

The above analysis results in a total staff and visitor parking requirement of 22 + 45 = **67 spaces**.

4.1.2 Fleet Vehicles

It is understood that up to 20 fleet vehicles will be associated with the community health centre that would require parking, with such vehicles expected to include EVs. The ISLHD has advised a managed solution will be implemented such that dedicated parking for fleet vehicles will not be necessary including a combination of the following:

- Using car parking allocated to visitors outside of centre opening hours (a strategy that occurs at another existing centre).
- Using car parking allocated to staff outside of centre opening hours, requiring coordination with staff arrivals/ departures to 'check out' fleet vehicles.
- Allowing staff to take home fleet vehicles, particularly senior staff and those that frequently complete community and home visits during the day thus reducing private vehicle demand.
- Parking fleet vehicles off-site at other LHD centres.

Such managed fleet vehicle solution would ensure sufficient on-site car parking associated with the proposal is available for staff and visitor parking during the centre opening hours.

4.1.3 Accessible Parking

Given the steep topography between Cowper Street and the proposed WCHC building, all accessible visitor parking should be accommodated within the on-site car park in addition to providing an accessible path of travel from Cowper Street when accounting for parents with prams. Based on the National Construction Code, one accessible space for every 50 parking spaces should be provided, and hence, a minimum of two accessible spaces is required on site based on the parking requirement.

4.1.4 Adequacy of Parking Provision

The above analysis results in a total parking requirement of 67 spaces, including two accessible spaces, as shown in Table 4.3, noting an operational management plan will be developed for the fleet vehicles to ensure sufficient on-site car parking associated with the proposal is available for staff and visitors during the centre opening hours.

Table 4.3: Parking requirement summary

Type	Source	Parking Requirement
Staff	DCP 2009	22
Visitors/ public	Visitor Parking Demand Assessment	45
Accessible parking	National Construction Code	2 (included in the above)
	Total	**67**

There are 64 car spaces proposed across the site, primarily within two upgraded existing car parks and a proposed new car park; and will include a combination of staff and visitor spaces. The northernmost car park is allocated to visitors, central carpark for visitors and staff and the southernmost car park for staff. Three accessible parking spaces have been provided on site as part of the WCHC proposal.

With the consideration of the parking requirement and proposed provision, the minor variance of three spaces can easily be accommodated on-street adjacent to the site (and would be within the daily fluctuation in local parking demand). The provision of more than 64 parking spaces is understood to not be feasible based on discussions with the broader project team based on analysis of constraints and design for the site. As documented in Figure 4.1, there are 31 unrestricted on-street parking spaces and 35 2-hour restricted on-street parking spaces in close proximity to the site. As detailed in Section 2.3, the on-street parking demand surveys completed in July 2022 while the existing Port Kembla Hospital continues in operation suggested that a maximum parking occupancy of 75 per cent for the on-street parking adjacent to the hospital on a typical weekday between 7:00am and 5:00pm. Therefore, the minor reliance on on-street parking would have minimal impact especially considering the hospital will be ultimately decommissioned.

Figure 4.1: Nearby On-Street Parking

Image source: Nearmap

Reliance on some use of on-street parking is considered appropriate and consistent with current conditions with the existing on-site services and broader Port Kembla Hospital operation. Specifically, with all current off-street parking for the existing on-site services being for staff and only two drop-off bays provided for the childcare; all other visitor demand associated with the childcare (and any for the existing on-site services) is currently accommodated on-street and thus could be considered as a credit, given it is proposed for demolition to make way for the WCHC.

To support the proposed on-site parking supply and to promote alternative travel modes to the use of a single-occupant private vehicles, travel demand measures are recommended starting with preparing and implementing a Green Travel Plan. This should include initiatives to encourage staff to use alternate travel modes (e.g. walking, cycling and buses) as well as increase carpooling. An Overview Green Travel Plan is detailed in Section 7.

4.2 Motorcycle Parking

In terms of motorcycle parking, the DCP 2009 specifies a rate of one motorcycle parking space per 25 car parking spaces for medical centres. As such, three motorcycle parking spaces are to be required on site as part of the proposal in detailed design. As part of the proposal, three motorcycle parking spaces have been provided which satisfies this requirement.

4.3 Bicycle Parking

In terms of bicycle parking, the DCP 2009 specifies a rate of one bicycle space per medical centre. Accordingly, at least one bicycle space should be provided to satisfy DCP requirements, noting this is a low provision. The DCP 2009 also has no requirement for end of trip facilities where there are less than five bicycle spaces proposed.

As discussed above, sustainable modes of transport are recommended to be promoted as part of the development. The ‘Planning guidelines for walking and cycling’ by the NSW Government suggests a bicycle parking provision rate for 5-10 per cent of practitioners and 5-10 per cent of staff for visitors for medical centres. As such, it is recommended that a minimum of seven spaces be provided for staff and another seven spaces be provided for visitors.

As part of the proposal, sixteen bicycle spaces and end of trip facilities have been incorporated. This provision exceeds the DCP requirement and the ‘Planning guidelines for walking and cycling’ recommended provision.

4.4 Electric Vehicle Charging Stations

The National Construction Code 2022 details a requirement of having 10 per cent of car parking spaces to be designed such that they are ready to have electric vehicle charging stations installed. As such, six parking spaces should be designed to be ready for installation of electric vehicle charging stations.

4.5 Car Parking Layout Review

The car park layout has been reviewed against the requirements of the Wollongong Development Control Plan 2009 and Australian Standards for Off Street Car Parking (AS/NZS2890.1:2004, AS2890.2:2018 and AS/NZS2890.6:2009). This assessment included a review of the following:

- access driveways
- internal roadway grades
- car space dimensions and aisle widths
- service areas and loading
- internal circulation
- parking for persons with disabilities.

Vehicle swept paths have been completed for B99 vehicles, Ambulance NSW Sprinter and Medium Rigid Vehicles accessing relevant parts of the site and included in Appendix A.

The review confirms that the site layout can be designed in accordance with the relevant Australian Standards for Off Street Car Parking (AS/NZS2890.1:2004 and AS/NZS2890.6:2009) and Off-Street Commercial Vehicle Facilities (AS2890.2:2018) subject to detailed design.

As part of the review, grades along the internal roads have been assessed against the relevant requirements in the above documents. Generally, grades along the internal roads have been designed to accommodate the largest design vehicle relevant to each section of road. However, there are a range of existing constraints particularly, relating to steep gradients along Cowper Street leading into the site access, that affect strict compliance with the above Australian Standards. Internal roadway design and interface with the adjacent streets has been addressed further by the civil engineer.

5. Loading and Waste Collection

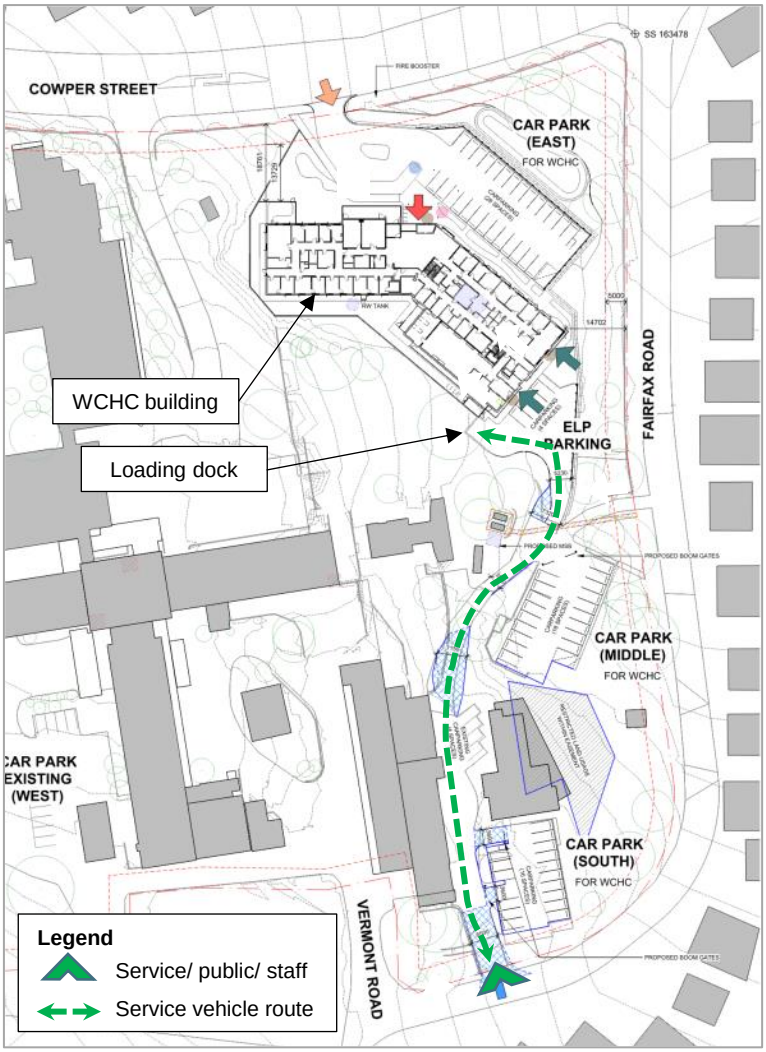
5.1 Overview

A loading area is located at the rear of the main WCHC building, with access via the southernmost access driveway on Fairfax Road. It has capacity for one service vehicle, accommodating the largest design vehicle, an 8.8-metre MRV which will be used for the purposes of waste collection and linen deliveries. Vehicle swept path analysis has been completed for all relevant manoeuvring requirements.

The internal road in which the loading dock will be accessed from will only accommodate two-way passing on select sections of the road and will function under a one lane, two-way arrangement where the width of the road cannot accommodate two-way passing of vehicles. Service vehicle volumes are not expected to be significant in the southern part of the site, meaning the chance of a service vehicle needing to pass a car would be low.

The service vehicle access arrangement is shown in Figure 5.1.

Figure 5.1: Proposed service vehicle access arrangements



Base plan: Drawing number 130562-WC-CAS-AR-DWG-11-99-9001, revision A, by Cox Architecture and Silver Thomas Hanley dated 21 February 2024

6. Traffic Assessment

6.1 Traffic Generation

Traffic generation estimates for the development have been determined with consideration to the Transport for NSW (TfNSW) Guide to Traffic Generating Developments 2002 (TfNSW Guide 2002) and Technical Direction: Updated Traffic Surveys (TDT 2013/04a), as well as the visitor parking demand assessment.

6.1.1 Existing Land Uses

To understand the net change in traffic generated by the proposal, consideration has been given to the traffic generating characteristics of the existing land uses being demolished to make way for the proposed WCHC.

As mentioned, the existing buildings contain a 24-place childcare centre and some 3,700 square metres of office space.

Assuming an average traffic generation of 0.5 trips per car spaces per hour for the existing 47 on-site staff car parking and 0.8 trips per child for the childcare, the existing buildings would generate around 43 two-way vehicle movements per hour currently during the surrounding weekday road network peak periods.

6.1.2 WCHC Proposal

Adopting the same traffic generation rate of 0.5 trips per car spaces per hour for the required 22 staff spaces and anticipated peak 45 space visitor parking demand, it is expected that the proposal could generate around 34 two-way vehicle movements per hour during the surrounding weekday road network peak periods. This considers that the typical standard operating hours of such health centres is 8:30am or 9:00am to 5:00pm and therefore peak visitor demand would not coincide with either the staff or surrounding road network peaks.

6.2 Traffic Impact

When considering the traffic generating characteristics of the existing land uses being demolished (some 43 two-way vehicle movements per hour) along with the WCHC proposal (around 34 two-way vehicle movements per hour) during the weekday road network peak periods, the WCHC proposal is not expected to have any additional impact on the surrounding road network compared to these existing land uses.

7. Overview Green Travel Plan

7.1.1 Travel Plan Framework

Transport is a necessary part of life, but it has economic, public health and environmental consequences. The transport sector is one of the fastest growing emissions sectors in Australia, and therefore is one of the key opportunities for reducing greenhouse gases. As well as delivering better environmental outcomes, providing a range of travel choices with a focus on walking, cycling and public transport will have major public health benefits and will ensure a strong and prosperous community.

The physical infrastructure being provided as part of the development is only part of the solution. A green travel plan (GTP) will ensure that the transport infrastructure, services and policies both within and external to the site are tailored to the users and coordinated to achieve the most sustainable outcome possible.

7.1.2 What is a GTP?

A Green Travel Plan (GTP) is a package of measures aimed at promoting sustainable travel and reducing reliance on the private car. It is not designed to be 'anti-car' however it will encourage and support people's aspirations for carrying out their daily business in a more sustainable way. Travel plans can provide both:

- measures which restrict car use (disincentives or 'sticks')
- measures which encourage or support sustainable travel, reduce the need to travel or make travelling more efficient (incentives or 'carrots').

The travel plan would promote the use of transport, other than the private car, provide choice for staff to travel to and from the site, which is more sustainable and environmentally friendly.

Indeed, there are a range of "non-car" transport options that are available at the site which have been described in this report.

Given the developments aim to reduce private travel to the site, the implementation of a GTP would be beneficial.

7.2 Key Objectives

The aim of the GTP is to bring about better transport arrangements for working at and visiting the WCHC. The key objectives of the travel plan are:

- To encourage the use of public transport.
- To encourage walking and cycling to/from the WCHC.
- To reduce the use of car, in particular single car occupancy.
- Where necessary to use the car, encourage more efficient use.

It is the intention therefore that the travel plan will deliver the following benefits:

- Enable higher public and active travel mode share targets to be achieved.
- Contribute to greenhouse gas emission reductions and carbon footprint minimisation.
- Contribute to healthy living for all.
- Contribute to social equity and reduction in social exclusion.
- Improve knowledge and contribute to learning.

7.3 Site Specific Measures

Several opportunities exist to provide the WCHC staff and visitors with incentives to consider alternative modes of travel to and from site.

The following potential measures and initiatives could be implemented to encourage more sustainable travel modes:

Active Travel

- Provide high quality and prominent bicycle parking and change facilities
- Provide clear pedestrian and cyclist wayfinding
- Encourage cultural change through:

- creating a bike user group (targeting staff living within five kilometres of the centre)
- events such as annual 'ride to work' day
- providing information detailing opportunities and facilities available to staff. This may include providing maps of the available cycling routes to and within the hospital.

Promote Car-Pooling

- Provide prioritised staff carpool parking spaces on-site, including consideration for incentives such as prices, location, and proximity to services.
- Limit on-site parking allocation to staff.
- Encourage staff that drive to work and park on surrounding roads to carpool through creation of a carpooling club or registry/forum.

Staff Fleet Vehicle Usage

- Apply a parking strategy that will allow visitors to park in certain spaces during centre opening hours and staff fleet vehicles to use the same spaces outside of these hours.
- Allow staff to take home fleet vehicles, particularly senior staff and those that frequently complete community and home visits during the day thus reducing private vehicle demand.
- Park fleet vehicles off-site at other LHD centres.

Public Transport

- Develop a Travel Access Guide (TAG) to be provided to staff and publicly available to all visitors. The document would be based on facilities available at the site and include detail on the surrounding public transport services and active transport initiatives. The TAG would be updated as the surrounding transport environment changes.
- Provide public transport information boards/ apps to inform staff and visitors of alternative transport options (the format of such information boards would be based upon the TAG).

Additional Travel Demand Initiatives

- Maintain pedestrian accessibility to existing bus routes and engage with service providers to assess feasibility of increasing frequency and timing, if needed.

7.4 Information and Communication

Several opportunities exist to provide staff and visitors with information about nearby transport options. Connecting staff and visitors with information would help to facilitate journey planning and increase their awareness of convenient and inexpensive transport options which support change in travel behaviour.

These include:

- Transport NSW provides public transport timetables and journey planning through their Transport Info website: http://www.transportnsw.info.
- Council provides a number of services and a range of information and events to encourage people of all levels of experience to travel by bicycle, including a Council cycling map: https://wollongong.nsw.gov.au/__data/assets/pdf_file/0026/172439/Wollongong-Cycling-Guide-and-Map-2022.pdf.

In addition, connecting staff and visitors via social media may provide a platform to informally pilot new programs or create travel-buddy networks and communication.

7.5 Monitoring of the GTP

There is no standard methodology for monitoring the GTP, but it is suggested that it be monitored to ensure that it is achieving the desired benefits and modify it if required. It will not be possible at this stage to state what additional modifications might be made as this will be dependent upon the particular circumstances prevailing at that time.

The GTP should be monitored on a regular basis, e.g., yearly, by carrying out travel surveys. Travel surveys will allow the most effective initiatives of the GTP to be identified, and conversely fewer effective initiatives can be modified or replaced to ensure the best outcomes are achieved. It will clearly be important to understand people's reasons for travelling the way they do; any barriers to changing their behaviour, and their propensity to change.

To ensure the successful implementation of the GTP, a Travel Plan Champion (TPC) should be appointed to ensure the successful implementation of the GTP. This could be the building manager or similar personnel.

7.6 Summary

The proposal would be able to develop and utilise a travel plan to actively promote increased use of sustainable transport modes. Although it is difficult to predict what measures might be achievable, the above measures provide a framework for the site and implementation of a future travel plan.

A detailed GTP would be prepared prior to opening of the WCHC.

8. Overview Construction Traffic Management

8.1 Overview

This section seeks to provide an overview of the construction traffic management initiatives to be implemented as a part of the construction works with the proposed development. A detailed Construction Traffic Management Plan (CTMP) would be prepared by the appointed contractor prior to commencement of construction works.

Specifically, this overview considers the following:

- construction site access arrangements
- anticipated truck volumes during construction
- truck routes to/from the site
- requirements for work zones
- pedestrian and cyclist access
- site personnel parking
- traffic control measures
- overview of CTMP requirements

8.2 Principles of Traffic Management

The general principles of traffic management during construction activities are as follows:

- minimise the impact on pedestrian and cyclist movements
- maintain appropriate public transport access
- minimise the loss of on-street parking
- minimise the impact on adjacent and surrounding buildings
- maintain access to/from adjacent buildings and properties
- restrict construction vehicle movements to designated routes to/from the site
- manage and control construction vehicle activity near the site
- carry out construction activity in accordance with approved hours of work.

8.3 Work Programme

The expected duration of works is to be determined during future stages. Anticipated staging and peak construction periods will be outlined in the future detailed CTMP.

8.4 Anticipated Work Hours

Construction work would be undertaken in accordance with the development consent conditions. The typical work hours are expected to be:

- Weekdays: 7:00am – 6:00pm
- Saturdays: 7:00am – 6:00pm
- Sundays and public holidays: no work permitted.

Workers would be advised of the approved works hours during induction. Any works outside of the approved work hours would be subject to prior approval from the appropriate authorities. Such works may include delivery of cranes, large plant or equipment required on the site that require oversize vehicle access.

8.5 Site Access and Loading

The main construction accesses to the site would be provided along Cowper Street and Fairfax Road approximately where the current vehicular accesses are located as detailed in previous sections. The exact location(s) of site access along Cowper Street and Fairfax Road will be confirmed during detailed construction planning, however are expected to be the existing driveway locations.

Accredited traffic controllers would be positioned at the site access(es) to assist construction vehicles enter and exit the work site. Should the traffic controllers be required to temporarily hold traffic during construction vehicle movements into/out of site, appropriate warning signage will be provided on all approaches to the access(es) and detailed on Traffic Guidance Schemes (TGS).

All loading is expected to take place within the bounds of the PKH site. Should a works zone be required, an application will be made to the relevant authorities prior to commencement of works.

8.6 Traffic Guidance Schemes

As a part of the detailed CTMP, TGS' will be prepared in accordance with the principles of the Traffic Control at Work Sites manual (Transport for NSW, 2022). The Traffic Guidance Schemes primarily shown where truck turning and/ or traffic controller signs will be located at specific locations (such as uncontrolled intersections) along the approved truck routes to warn other road users of the increase in construction vehicles movements and if traffic controllers are required to temporarily hold traffic at the site access(es).

8.7 Construction Worker Parking

The construction activities could generate up to 80 workers during peak activities, although this would be confirmed by the appointed contractor prior to construction. Given the size of the site, it is recommended that the appointed contractor provide on-site worker parking and investigate opportunities for shuttle services to/ from nearby railway stations.

During site induction, workers should be encouraged to carpool as well as be informed of the existing bus and train network servicing the area. Appropriate arrangements should be made for any equipment/ tool storage and drop-off requirements.

It is expected that the work site during construction will accommodate all worker parking. Use of public transport services and/ or shuttle services, as well as carpooling, will be expected to reduce the overall car parking demand from construction workers. Overall, construction worker car parking can be readily accommodated and managed.

8.8 On-street Works Zone

An on-street works zone is not expected to be required, with all loading and unloading of materials expected to be contained within the site.

If a works zone is required, the contractor would be required to obtain approval from the relevant authority.

8.9 Light and Heavy Vehicle Traffic Generation

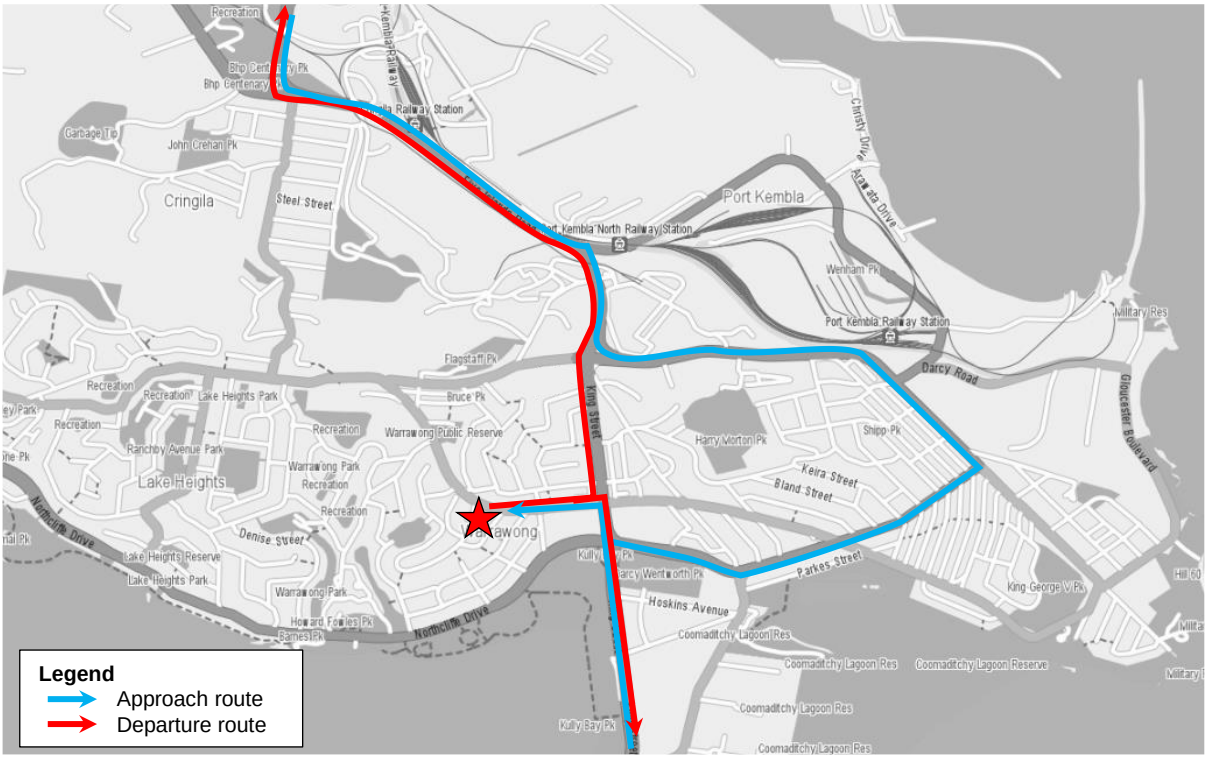
The expected number of heavy vehicles accessing the site per day during peak activity would be confirmed by the appointed contractor. However, based on projects of similar scales, around four to six trucks per hour could be expected during peak activities (i.e. concrete pours).

Light vehicle traffic would be largely generated by construction worker traffic movements to and from the site. Some parking should be investigated on-site, with workers to be encouraged to use public transport or carpool where practical. Further to this, construction worker traffic movements will generally be outside of surrounding road network peak periods.

8.10 Heavy Vehicle Access Routes

Truck movements will be restricted to designated routes and confined to State and Regional Roads. Truck routes to/from the site, as indicated below, have been identified with the aim of minimising the impact of construction traffic on roads near the site. Figure 8.1 provides a summary of the anticipated construction vehicle routes to/ from the site, which considers the existing right turn ban from King Street to Cowper Street on approach to the site. Truck drivers will be advised of the designated truck routes to/ from the site and existing turn bans.

Figure 8.1: Construction vehicle routes



Base image source: http://www.street-directory.com.au/

8.11 Pedestrian and Cyclist Access

Temporary construction fencing will be installed along the perimeter of the site to ensure safe pedestrian passage adjacent to the site on Cowper Street and Fairfax Road.

The proposed works for the project are expected to be contained largely within the PKH site and setback notably from any footpaths. Therefore, impacts to pedestrians and cyclists are expected to be minimal. Footpath closures are not expected for most of the works, however should this be required by the contractor (e.g. for any works within the road verge including driveway construction) the impact would be managed through the CTMP. Should pedestrian facilities be impacted, alternative pedestrian access complete with signage will be provided, and pedestrian/ traffic movements would be managed by an accredited traffic controller if required. Should any unforeseen activities require the temporary closure of any pedestrian thoroughfares, a Traffic Guidance Scheme (TGS) will need to be developed and submitted for approval by Council.

8.12 Transport Impacts

Some minor increase in average delay to vehicles at surrounding key intersections can be expected at times during the construction period, as is typical for construction projects. The construction activities are not expected to impact existing public transport services near the site.

Accredited traffic controllers may be required to temporarily hold traffic during construction vehicle movements into/ out of the site. Considering the low volumes along Cowper Street and Fairfax Road, any requirement to temporarily hold traffic is considered appropriate.

8.13 Overview of Detailed CTMP Requirements

This report provides an overview of the construction traffic management initiatives that would be implemented. A detailed CTMP would be prepared by the appointed contractor and cover the following additional information:

- Description of construction activities and duration
- Approved construction work hours
- Detailed assessment of construction traffic impacts including any cumulative impacts
- Details regarding any one-off activities

- Swept path analysis of heavy vehicle access
- Detailed assessment of on-street parking impacts
- Emergency vehicle access
- Impacts to public transport services
- Traffic Guidance Scheme(s)
- Contact details of key project personnel.

9. Conclusion

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

- The proposed site for the WCHC occupies a portion of land at 89-91 Cowper Street, Warrawong and is legally described as Lot 1/ DP593925, Lots 1 to 4/ DP394363, Lots 21 to 60/ DP23670, and Lot 1/ DP129519. The centre will be constructed on the eastern portion of the existing Port Kembla Hospital site, which will be decommissioned following the completion of New Shellharbour Hospital.
- A parking assessment was completed to understand the likely required parking provisions based on the Wollongong DCP 2009 for staff and a visitor parking demand assessment for public/ visitors, which identified a requirement for 67 on-site parking spaces.
- The 64 spaces proposed on-site results in a minor variance which can easily be accommodated on-street adjacent to the site, which is consistent with current conditions with the existing on-site services and broader Port Kembla operation. A managed fleet vehicle solution has been proposed to ensure the on-site car parking associated with the proposal is available for staff and visitor parking during the centre opening hours.
- The proposed internal road, parking and loading layout has been designed with the aim to accommodate the various user groups and is generally consistent with the dimensional requirements as set out in Wollongong DCP 2009, AS2890.1:2004, AS2890.2:2018 and AS2890.6:2022.
- The proposal is not expected to have any additional operational impact on the surrounding road network compared to the existing land uses, with a likely decrease in road network peak hour traffic generation from existing on-site activities.
- The WCHC would be able to develop and utilise a green travel plan to actively promote increased use of sustainable transport modes.
- The anticipated construction traffic impact of the project is expected to be appropriately managed so as to minimise any impacts to existing road users, including pedestrians, cyclists and general traffic.

Appendix A. Vehicle Swept Path Assessment

THE CLASSIFICATION FOR A MEDICAL CENTRE CAR PARK AS DEFINED IN AS2890.1:2004 IS:
- PATIENTS (CLASS PARK USER CLASS 3),
- VISITORS (CLASS PARK USER CLASS 3),
- STAFF (CLASS PARK USER CLASS 1).

AS A GENERAL RULE, ALL CAR PARKS SHOULD BE DESIGNED TO USER CLASS 3 TO ALLOW FLEXIBILITY TO CHANGE THE USER TYPE, AS PER HI GUIDELINES.

FOR COMPLIANCE WITH AS2890.1:2004, AS2890.2:2018, NOTING THAT THE LARGEST DESIGN VEHICLE IS A ANSW MERCEDES SPRINTER:
- PROVIDE A MAXIMUM GRADE OF 1:6.5 AND MAXIMUM CHANGE OF GRADE OF 1:12 OVER 4m (VERTICAL CURVES MAY BE USED TO ACCOMMODATE VEHICLES UP TO SRV/ AMBULANCE SIZED VEHICLES - CIVIL DESIGN),
- MAXIMUM CROSS-FALL OF 1:20,
- MAXIMUM GRADE OF 1:20 FOR THE FIRST 6m INTO THE SITE,
- MAXIMUM GRADE 1:40 WITHIN ACCESSIBLE DROP-OFF SPACES.

IT IS UNDERSTOOD THAT EXISTING GRADES ALONG COWPER STREET MAKE DESIGNING FOR COMPLIANT GRADES DIFFICULT. OVERALL GRADES SUBJECT TO CIVIL ENGINEER INPUT AND DESIGN.

FOR COMPLIANCE WITH AS2890.6:2022, PROVIDE 1.6m WIDE AREA SHARED AREA ADJACENT TO DROP-OFF SPACES AT THE SAME LEVEL AS THE DROP-OFF SPACES. RECOMMEND PROVIDING A FLUSH KERB TREATMENT WITH BOLLARDS TO SEPARATE TRAFFICABLE AND PEDESTRIAN AREAS.

WHEEL STOPS SHOULD BE LOCATED 0.9m FROM THE END OF SPACE WITH NO OR LOW KERB (<150mm), OR 1.1m FROM A HIGH WALL OR KERB (>150mm) FOR REAR IN PARKING. MEASURED TO THE POINT OF CONTACT WITH VEHICLE TYRE

COWPER STREET

FIRE BOOSTER

18761

13729

7.26

CAR PARK (EAST)

FOR WC

CARPARKING (26 SPACES)

2.40

5.84

0.95

3.58

MB

RW TANK

2.00

SS 163478

5000

N

SURVEY/ ARCHITECTURAL BASE IN BLUE
DRAWING 130562-WC-CAS-AR-SK-11-99-9001
REVISION A
BY COX/ STH
DATED 21.02.2024

AERIAL IMAGERY FROM NEARMAP
DATED 31.12.2021

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BEWARE OF UNDERGROUND SERVICES
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DESIGNED W. XIE	DESIGN CHECK B. MAYNARD
APPROVED BY B. MAYNARD	DATE ISSUED 20 FEBRUARY 2024

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CAD FILE NO. 301401557-11-P12.DWG

WARRAWONG COMMUNITY HEALTH CENTRE

REF - COWPER STREET ACCESS
DESIGN REVIEW

DRAWING NO. 301401557-11-01 SHEET 01 OF 07 ISSUE P12

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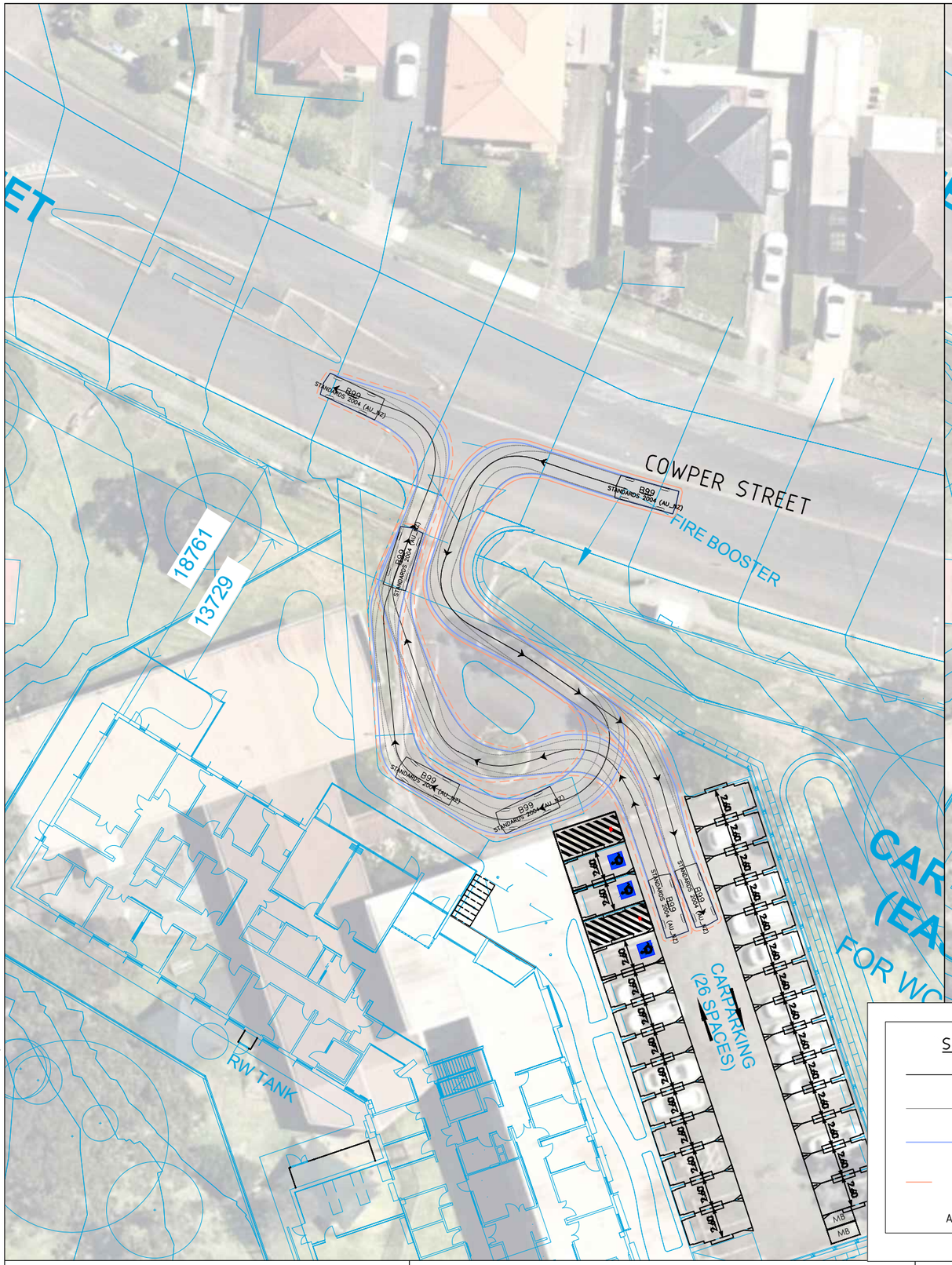

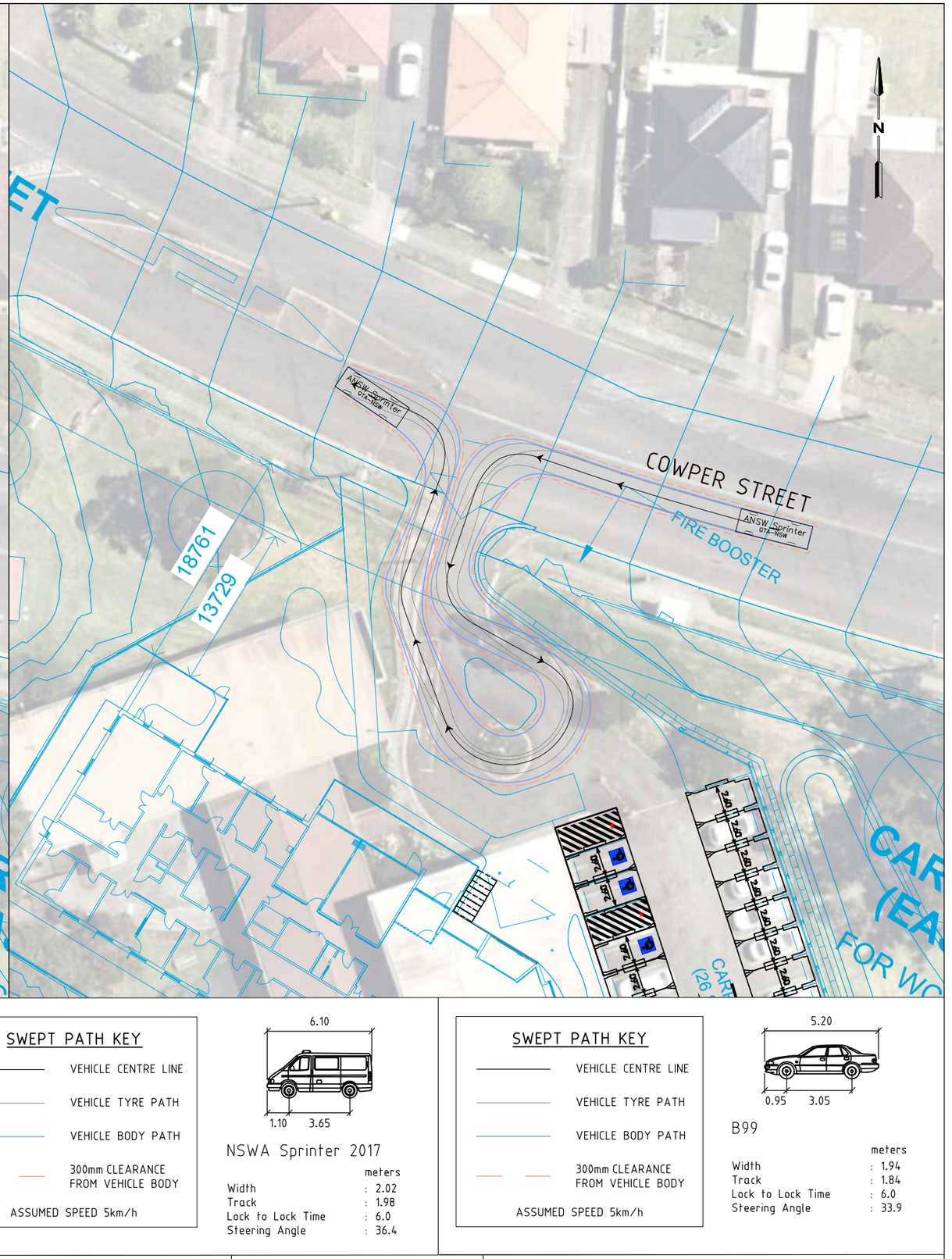

SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 300mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 5km/h

NSWA Sprinter 2017

	meters
Width	: 2.02
Track	: 1.98
Lock to Lock Time	: 6.0
Steering Angle	: 36.4

SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 300mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 5km/h

B99

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.9

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WARRAWONG COMMUNITY HEALTH CENTRE

REF - COWPER STREET ACCESS
VEHICLE SWEPT PATH ASSESSMENT

DRAWING NO. 301401557-11-02 SHEET 02 OF 07 ISSUE P12

THE CLASSIFICATION FOR A CAR PARK AS DEFINED IN AS2890.1:2004 IS:
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VISITORS (CLASS PARK USER CLASS 3),
STAFF (CLASS PARK USER CLASS 1).

AS A GENERAL RULE, ALL CAR PARKS SHOULD BE DESIGNED TO USER CLASS 3 TO ALLOW FLEXIBILITY TO CHANGE THE USER TYPE, AS PER HI GUIDELINES.

LOADING DOCK TO BE FURTHER DETAILED (E.G. DETAILS RELATING TO LOADING AND UNLOADING ARRANGEMENTS) AND ASSESSED FURTHER AS PART OF FUTURE DESIGN STAGES

MAINTAIN EXISTING CARD READER

FOR COMPLIANCE WITH AS2890.2:2018, NOTING THAT THE LARGEST DESIGN VEHICLE IS A 8.8m MRV:
PROVIDE A MAXIMUM GRADE OF 1:6.5 AND MAXIMUM CHANGE OF GRADE OF 1:16 OVER 7m (VERTICAL CURVES MAY BE USED TO ACCOMMODATE VEHICLES UP TO MRV SIZED VEHICLES - CIVIL DESIGN)

OVERALL GRADES SUBJECT TO CIVIL ENGINEER INPUT AND DESIGN.

NOTING THAT IT IS A LIGHT VEHICLE EXIT ONLY, FOR COMPLIANCE WITH AS2890.1:2004:
MAXIMUM GRADE OF 1:5 AND MAXIMUM CHANGE OF GRADE OF 1:8 OVER 2m (NOTING THAT THERE IS PUBLIC ACCESS),
MAXIMUM GRADE OF 1:20 FOR THE FIRST 6m INTO THE SITE.

OVERALL GRADES SUBJECT TO CIVIL ENGINEER INPUT AND DESIGN.

INDICATIVE RELOCATED BOOM GATE

WHEEL STOPS SHOULD BE LOCATED 0.9m FROM THE END OF SPACE WITH NO OR LOW KERB (<150mm), OR 1.1m FROM A HIGH WALL OR KERB (>150mm) FOR REAR IN PARKING. MEASURED TO THE POINT OF CONTACT WITH VEHICLE TYRE

INDICATIVE ENTRY AND EXIT CONTROLS SHOWN, IF REQUIRED

CARPARKING (4 SPACES)

CARPARKING (18 SPACES)

CARPARKING (15 SPACES)

EXISTING CARPARKING (4 SPACES)

PROPOSED MSB

PROPOSED BOOM GATES

RESTRICTED LAND USAGE WITHIN EASEMENT

ELP PARKING

CAR PARKING (MID)

CAR PARKING (SOUTH) FOR WCHC

FAIRFAX ROAD

VERMONT ROAD

14702

N

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DRAWING NO. 301401557-11-03 SHEET 03 OF 07 ISSUE P12

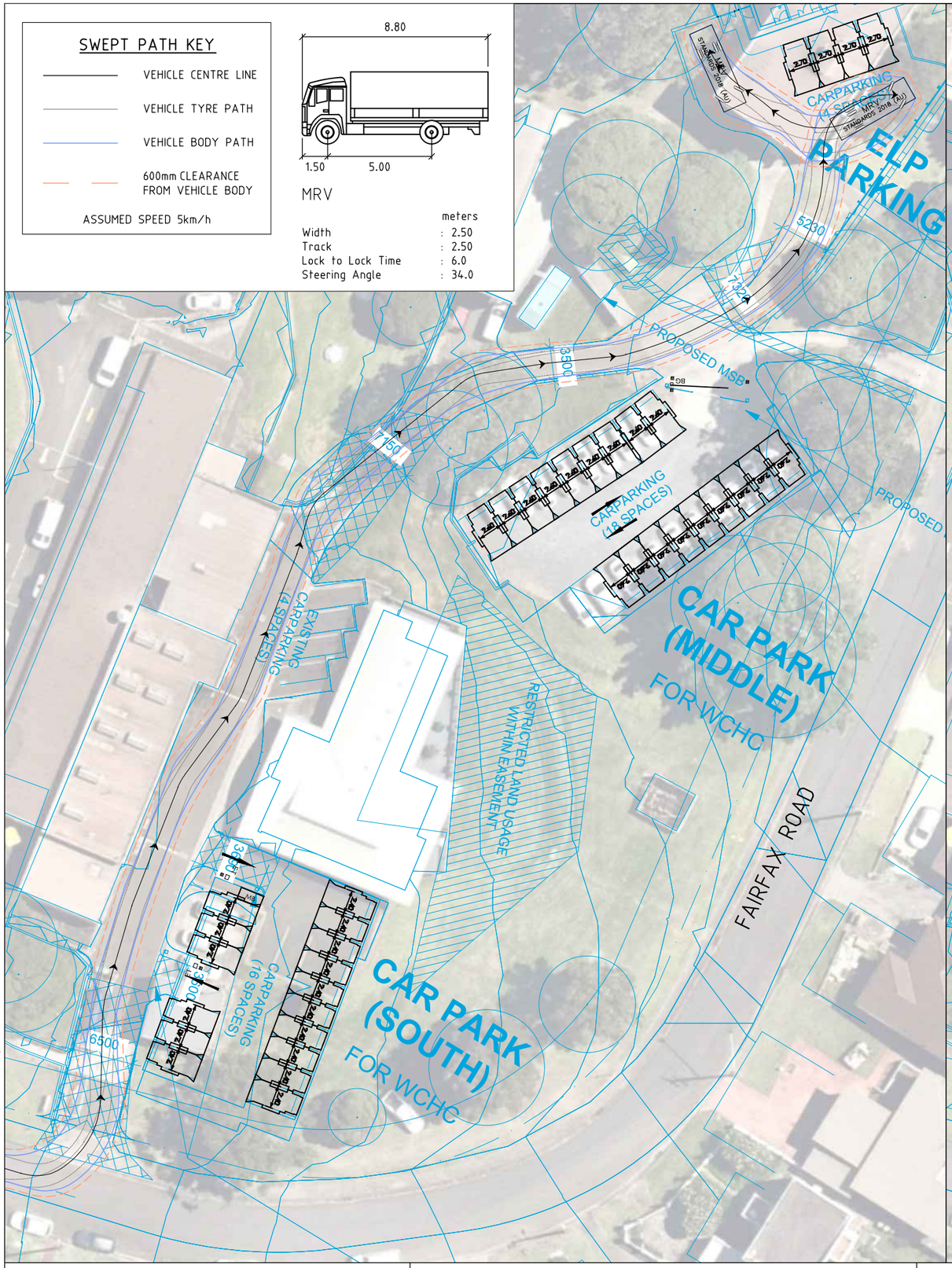
SWEPT PATH KEY

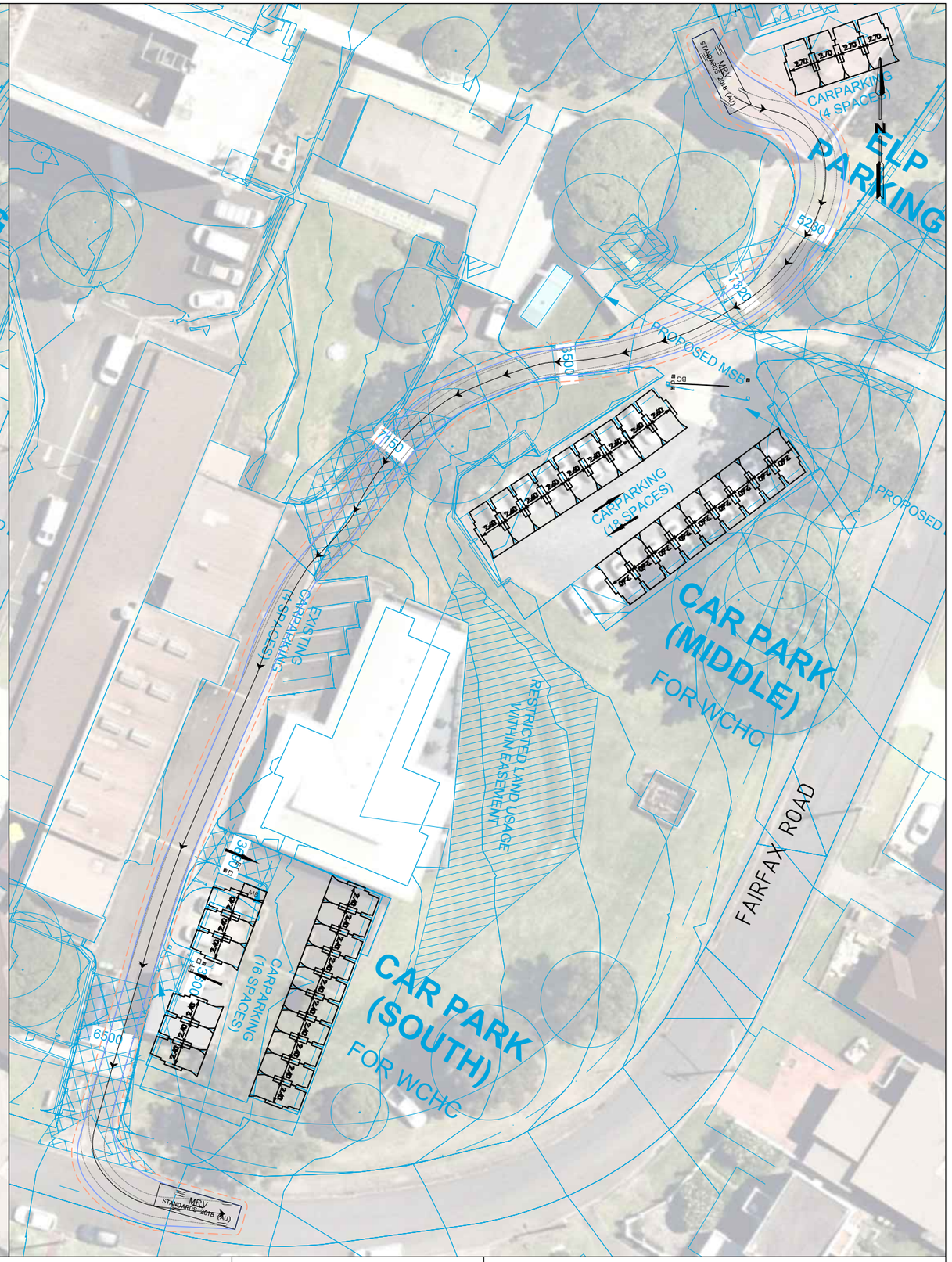
- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 600mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 5km/h

MRV

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 34.0





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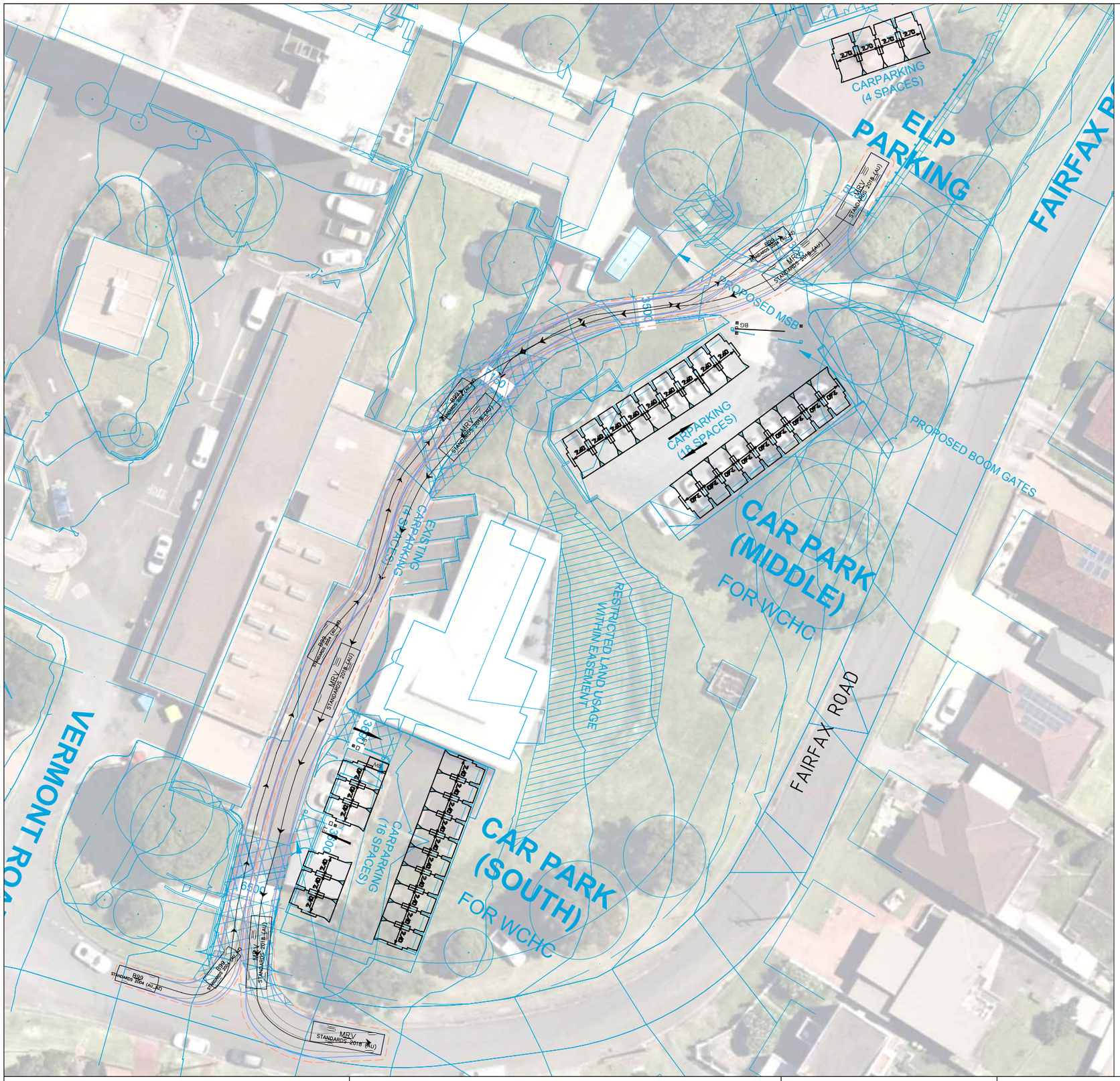
WARRAWONG COMMUNITY HEALTH CENTRE

REF - FAIRFAX ROAD ACCESS
VEHICLE SWEPT PATH ASSESSMENT

DRAWING NO. 301401557-11-04 SHEET 04 OF 07 ISSUE P12



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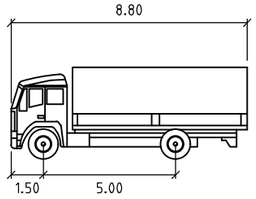
SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 600mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 5km/h



MRV

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 34.0

SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 300mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 5km/h

B99

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.9

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REF - FAIRFAX ROAD ACCESS
VEHICLE SWEPT PATH ASSESSMENT

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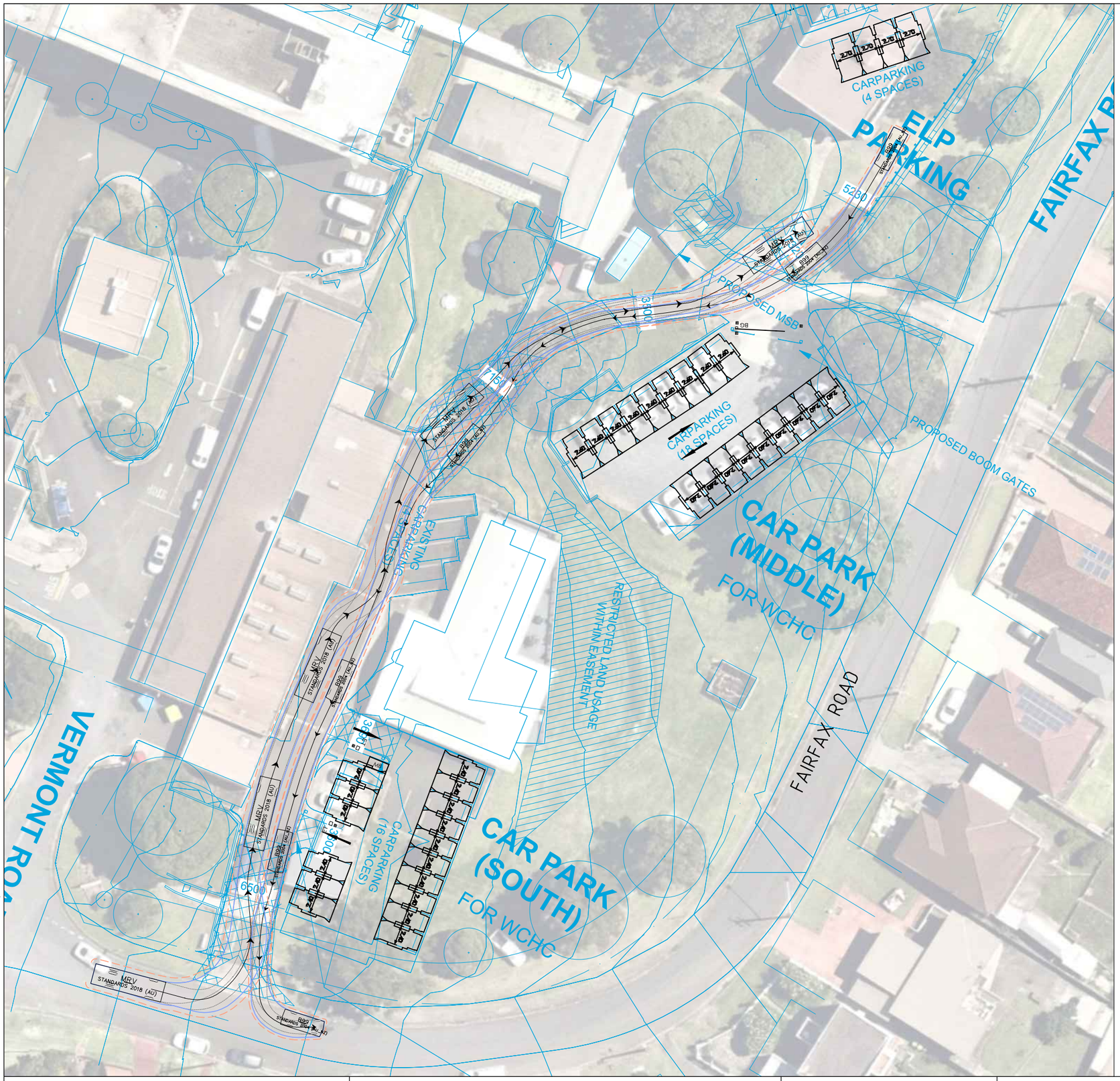
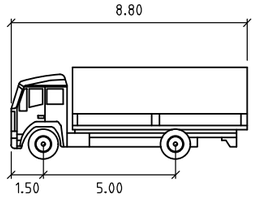


SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 600mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 5km/h



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SUBJECT TO CHANGE WITHOUT NOTIFICATION

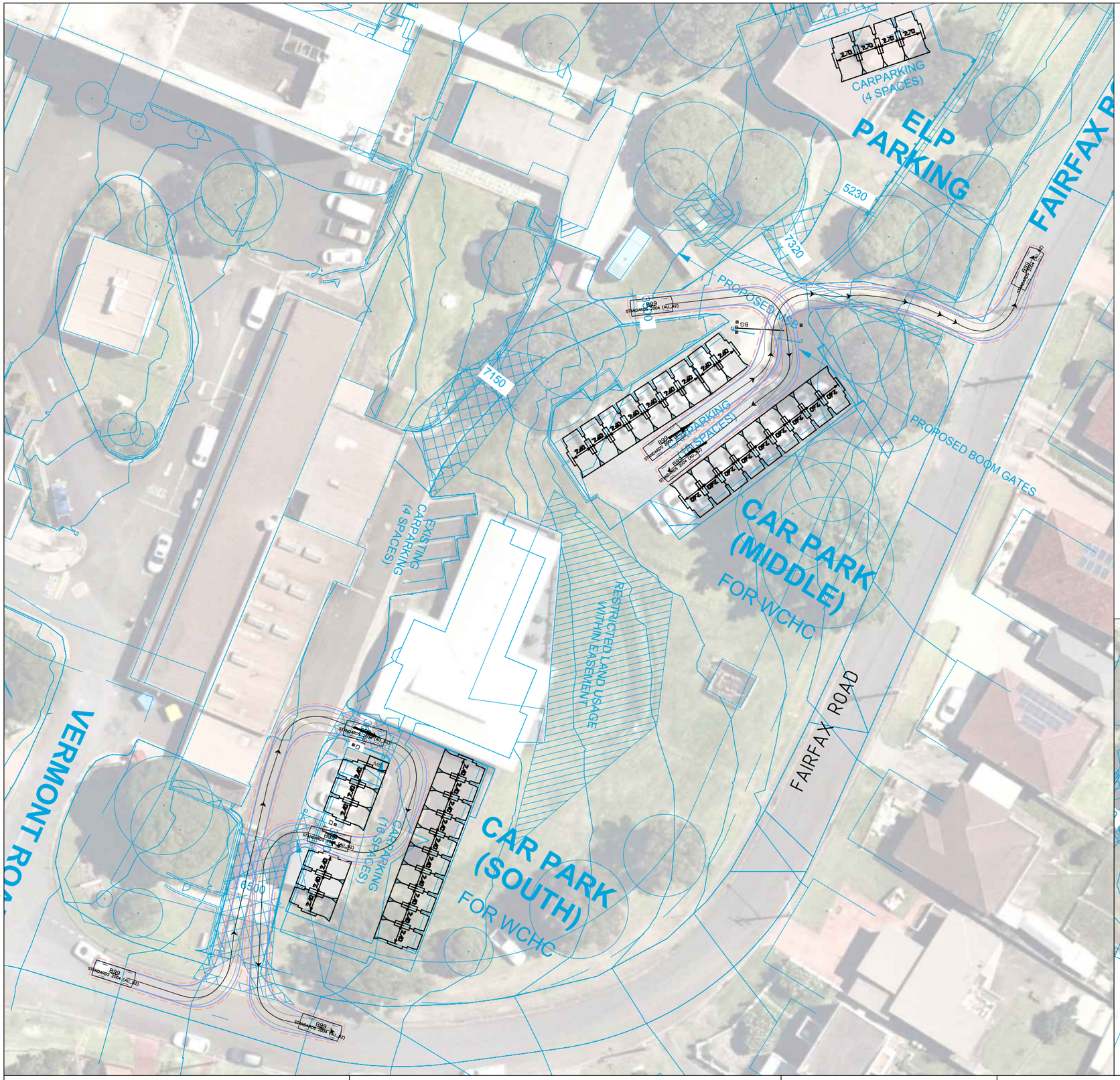
WARNING
BEWARE OF UNDERGROUND SERVICES
THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

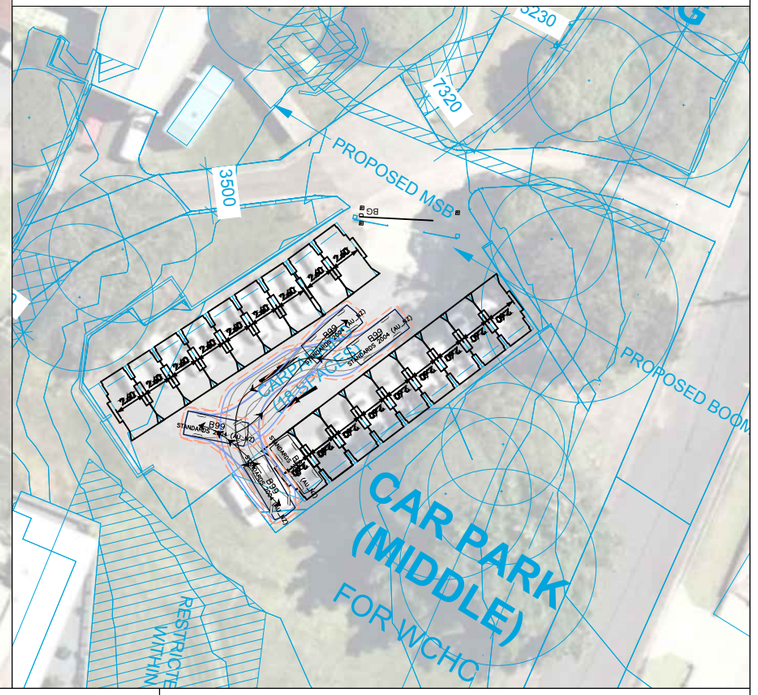
DESIGNED	W. XIE
DESIGN CHECK	B. MAYNARD
APPROVED BY	B. MAYNARD
DATE ISSUED	20 FEBRUARY 2024
SCALE	A3 0 2.5 5 10 1:500
CAD FILE NO.	301401557-11-P12.DWG

WARRAWONG COMMUNITY HEALTH CENTRE

REF - FAIRFAX ROAD ACCESS
VEHICLE SWEPT PATH ASSESSMENT

DRAWING NO. 301401557-11-06 SHEET 06 OF 07 ISSUE P12



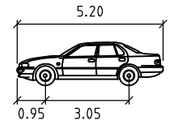


N

SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 300mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 5km/h



B99

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.9

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WARRAWONG COMMUNITY HEALTH CENTRE

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VEHICLE SWEPT PATH ASSESSMENT

DRAWING NO. 301401557-11-07 SHEET 07 OF 07 ISSUE P12

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w

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