gtk consulting
traffic management
and car parking solutions

Traffic and Car Parking Assessment
Proposed Child Care Centre
110-112 Mount Vernon Road, Mount Vernon
Version 2

MAY 2019

gtk consulting pty ltd
1701 River Road
Lower Portland NSW 2756

ABN 70 122 395 993

m 0417 274 729
e gtkconsulting@bigpond.com

Table of Contents

1 INTRODUCTION

gtk consulting has been engaged by Mr Vladimir Vanovac to undertake a traffic and car parking assessment for a proposal to construct a child care centre at 110-112 Mount Vernon Road, Mount Vernon (**Figures 1** & **2**).

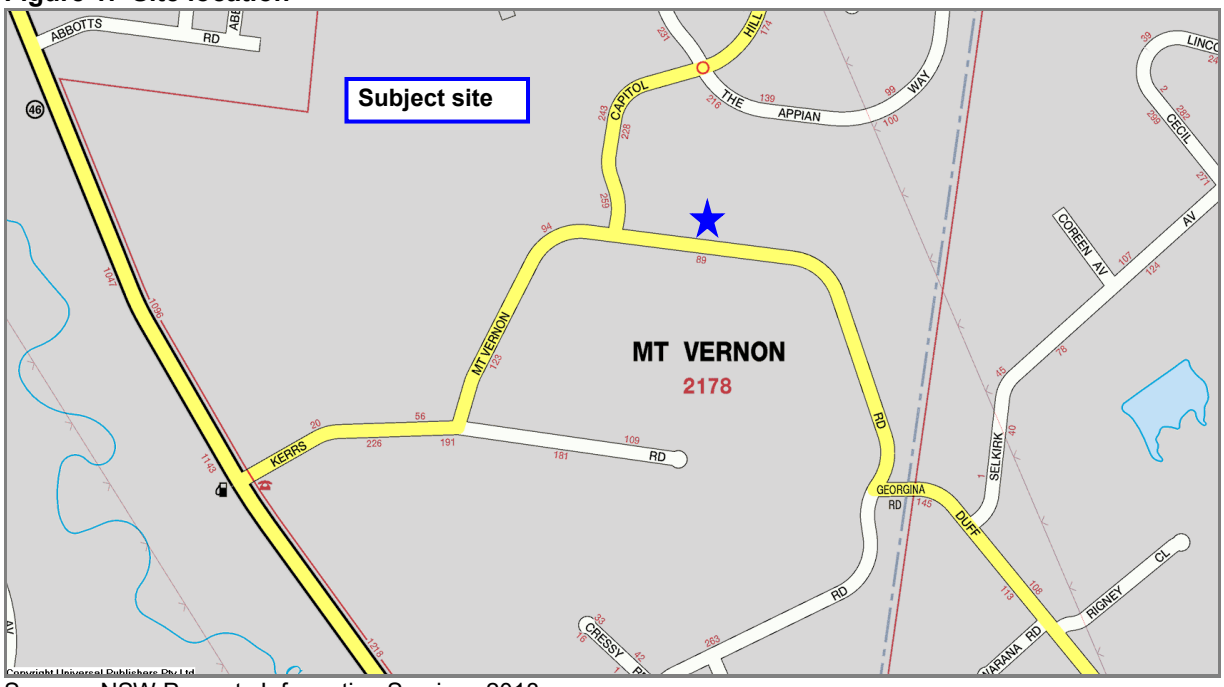
The proposed child care centre is required to meet both existing and future needs of the developing Mount Vernon community and surrounding suburbs.

This report provides:

- A description of the site and the proposal.
- A description of the road network serving the site and the prevailing traffic conditions.
- An assessment of the potential traffic implications of the development.
- An assessment of car parking requirements for the proposed child care centre.
- An assessment of vehicle access to and from the site.

This assessment was undertaken by Garry Kennedy, Director gtk consulting pty ltd. Garry has extensive (45 years) experience in Traffic Engineering, Road Safety and Car Parking. Garry chaired a Local Traffic Committee for seventeen years at a major metropolitan Council. In 2006 Garry established gtk consulting and since that time has undertaken many traffic and car parking assessments and studies for Local and State Government Agencies and private developers. Garry provides expert evidence in the NSW Land and Environment Court, Local Magistrates Court and District Court. Garry's court experience covers a wide range of traffic activities, such as, the suitability of development proposals, traffic accident liabilities, heavy vehicle prosecutions, parking offences and many other offences under the Local Government Act and the Roads Act.

Figure 1: Site location



Source: NSW Property Information Services 2018

Figure 2: Aerial view of site

Source: Google Maps 2019

2 THE SITE, SURROUNDING LAND USE AND ADJACENT STREETS

The site of the proposed child care centre is located on the northern side of Mount Vernon Road approximately 400 metres east of Capital Hill Drive. The property is currently vacant and has an area of 1.033 hectares. Its legal description is Lot 4 in DP 865818 (**Photo 1**). The surrounding land use is rural residential and the site and adjacent lots are zoned *E4 Environmental Living*.

Photo 1: Subject site

Source: gtk consulting 2019

Mount Vernon Road is 7.0 metres wide between the edges of bitumen and there is double white line-marking in front of the site and for the majority length of Mount Vernon Road. There is no kerb and gutter on Mount Vernon Road (**Photos 2** & **3**) and the speed zone is 60km/h.

Photo 2: Mount Vernon Rd looking west

Source: gtk consulting 2019

Photo 3: Mount Vernon Rd looking east

Source: gtk consulting 2019

3 THE PROPOSAL

The proposal is to establish a child care centre which will operate 7.00am – 6.00pm weekdays and accommodate 118 children from the local and surrounding communities. Nineteen (19) staff will be engaged within the child care centre.

Thirty four (34) car parking spaces are proposed within a car parking area to be constructed between the road boundary and child care centre building comprising:

- 19 staff spaces;
- 15 parent/carer/visitor spaces, including 2 spaces for persons with a disability; and,
- 1 mini bus space.

A one-way traffic circulation will be adopted with ingress to the car parking area via a new 4.5 metre wide driveway on the western side of the property and new exit driveway 4.8 metres wide on the eastern side.

A 22 seat minibus will be provided to pick-up and return children to their place of residence. The use of a minibus will reduce the volume of traffic to and from the site and demand for car parking.

Architectural plans for the proposal are provided in **Figures 3, 4** and **5**.

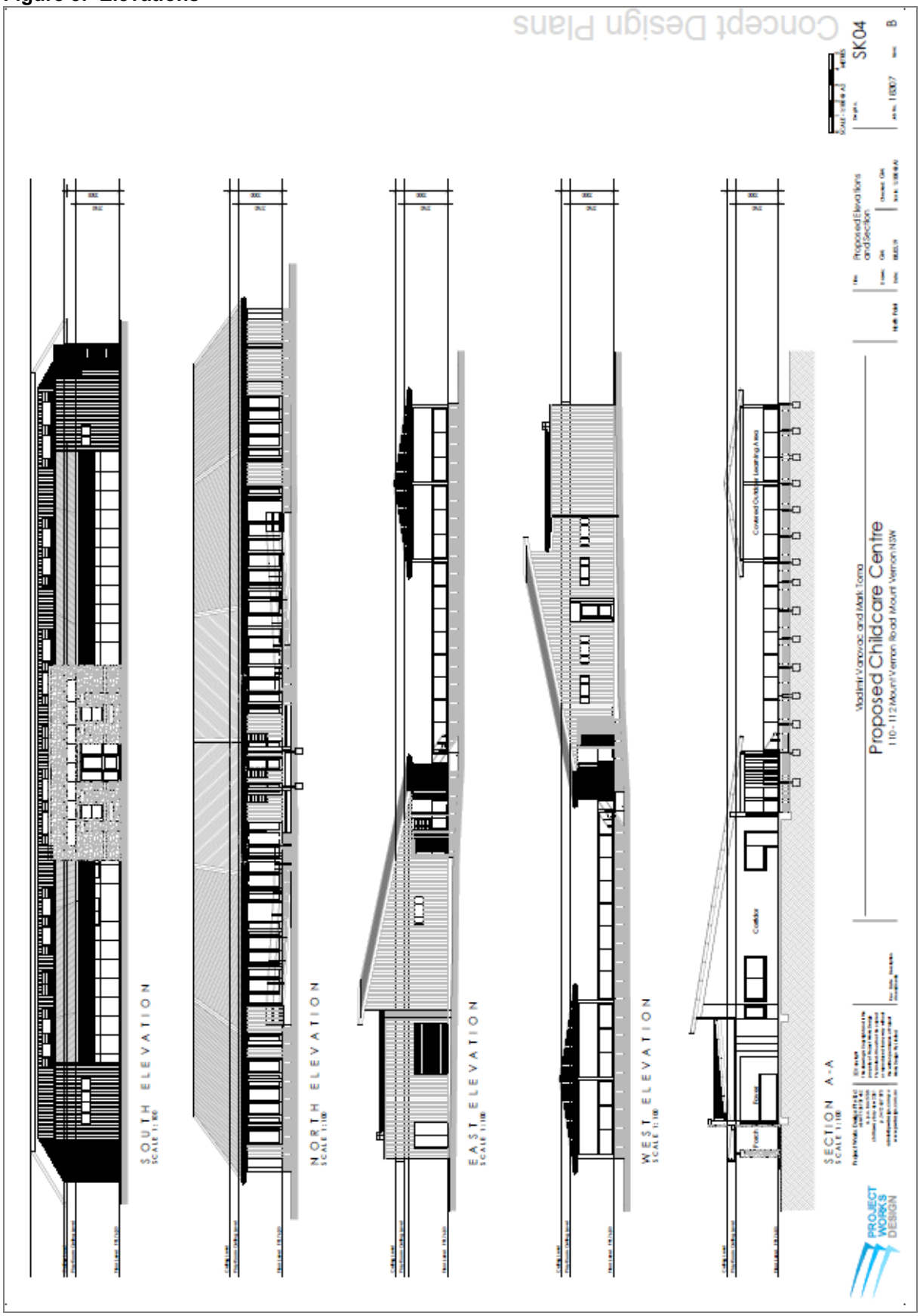
Figure 3: Site plan of proposed child care centre

Source: Project Works Design Pty Limited 2019

Figure 4: Floor plan

Source: Project Works Design Pty Limited 2019

Figure 5: Elevations



Source: Project Works Design Pty Limited 2019

4 TRAFFIC GENERATION

Roads and Maritime Services (RMS) provides average traffic generation rates for a range of different land uses in their publication *Guide to Traffic Generating Developments*. The rates are based on extensive surveys undertaken throughout the Sydney Metropolitan Area. RMS guidelines suggest that the maximum peak vehicle trips generated by child care centres (long day care) are:

- 0.8 per child in the AM peak between 7.00am and 9.00am; and,
- 0.7 per child in the AM peak between 4.00pm and 6.00pm.

The maximum peak hour vehicle trips (phvt) for the proposed development are:

Child care centre	118 children x 0.8	=	**94 phvt** in the AM peak
	118 children x 0.7	=	**83 phvt** in the PM peak

The centre will provide a minibus which has a capacity of 20 children (plus 1 driver and 1 adult supervisor) and undertake 1 trip in the AM and PM peak periods, thereby reducing the peak hour vehicle trips to approximately **74** in the AM peak and **63** in the PM period.

The volume of traffic generated by the proposed child care centre, therefore:

- Is moderate and will have minor impact on existing and future traffic flows, and intersection capacities.
- Will not present any unsatisfactory traffic safety or capacity issues on the road network.

5 PARKING

Penrith City Council's Development Control Plan 2014 – Table C10.2 Car Parking Rates, provides a schedule of car parking requirements for various land use activities within the Penrith LGA. The car parking rates for the child care centre are set out in **Table 1** and these are used to calculate the parking requirements for the proposal.

Table 1: Car parking requirements proposed child care centre

Parking Type	DCP Car Parking Rates	Number Proposed	Spaces Required
Children	1 space per 10 children	118 children	**12.0 parking spaces**
Staff	1 space per staff	19 staff	**19.0 parking spaces**
		TOTAL	**31 parking spaces**

Source: Penrith City Council DCP 2014

The proposal provides:

- 15 spaces, including 2 spaces for persons with a disability, for parents/carers/visitors; and,
- 19 parking spaces for staff.

In accordance with AS 2890.1:2004 the car parking area for the proposed child care centre is a Class 3 facility. The aisle width is 6.2 metres and staff car parking spaces are 2.4 metres wide and minimum 5.4 metres long. Parent/carer/visitor spaces are 2.6 metres wide and minimum 5.4 metres long. The spaces for persons with a disability are 2.4 metres wide adjacent to a 2.4 metres wide 'shared area'.

6 ACCESS AND INTERNAL CIRCULATION

6.1 SITE ACCESS

The minimum requirement in assessing the safety of the driveways on Mount Vernon Road is the need to provide sufficient sight distance for drivers to observe a possible conflict with other vehicles and allow for sufficient time to take evasive action should it be required.

An accepted approach to calculating the provision of safe and efficient access to and from the development is to ensure that there is sufficient sight distance to enable non-priority traffic (i.e. traffic turning into and out of the site) to carry out their turning movements without unduly interfering with mainstream traffic flow.

AS 2890.1:2004 *Parking Facilities – Off-street car parking* sets out the sight distance requirements for access driveways.

The speed zone on Mount Vernon is 60 km/h and sight distance from the location of the access driveways is set out in **Table 2**:

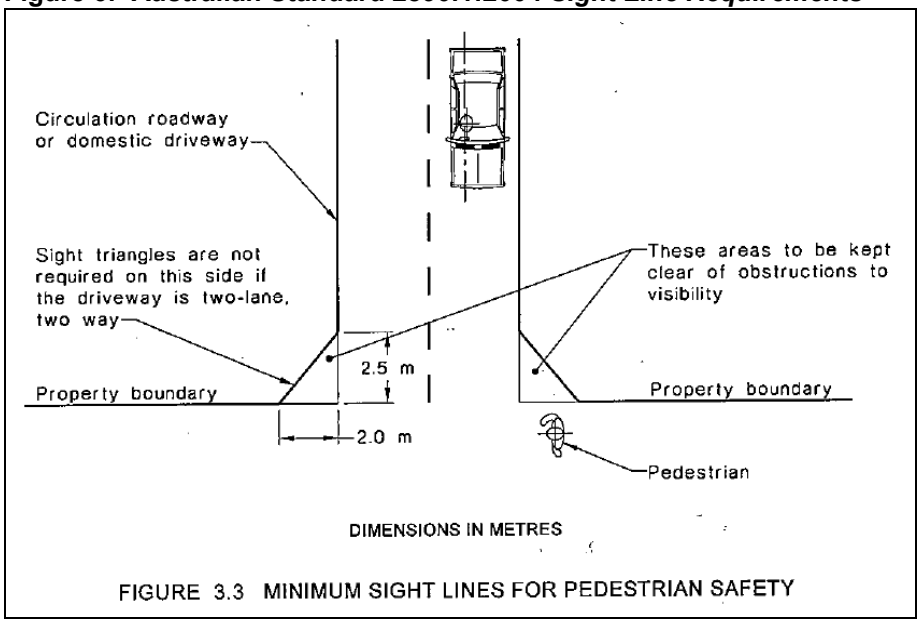
Table 2: Sight distance requirements

Source	Sight Distance Required	Sight Distance Available
AS 2890.1:2004 (5 sec gap@ 50km/h)	83 metres (east)	190 metres
	83 metres (west)	>200 metres

The sight distance from the proposed ingress and egress driveways on Mount Vernon Road, therefore, exceeds the requirements of AS 2890.1:2004.

In addition to sight distance requirements for vehicles entering and exiting the site, AS 2890.1: 2004 requires the provision of adequate visibility between vehicles leaving a car park and pedestrians on the road frontage footpath. Landscaping on either side of the exit driveway will be low shrubs and ground covers and, as shown in **Figure 3 (Section 3)**, there are clear sightlines at the road boundary of the exit driveway. **Figure 6** below reproduces Figure 3.3 of the Standard and details the sight lines required for a vehicle exiting a driveway, i.e. a point 2.5 metres within the property to a distance of 2.0 metres either side of the exit driveway.

Figure 6: Australian Standard 2890.1:2004 *Sight Line Requirements*



The landscaping on either side of the exit driveway will be low shrubs and ground covers, therefore, complying with the sight line requirements of AS 2890.1:2004.

6.2 INTERNAL CIRCULATION

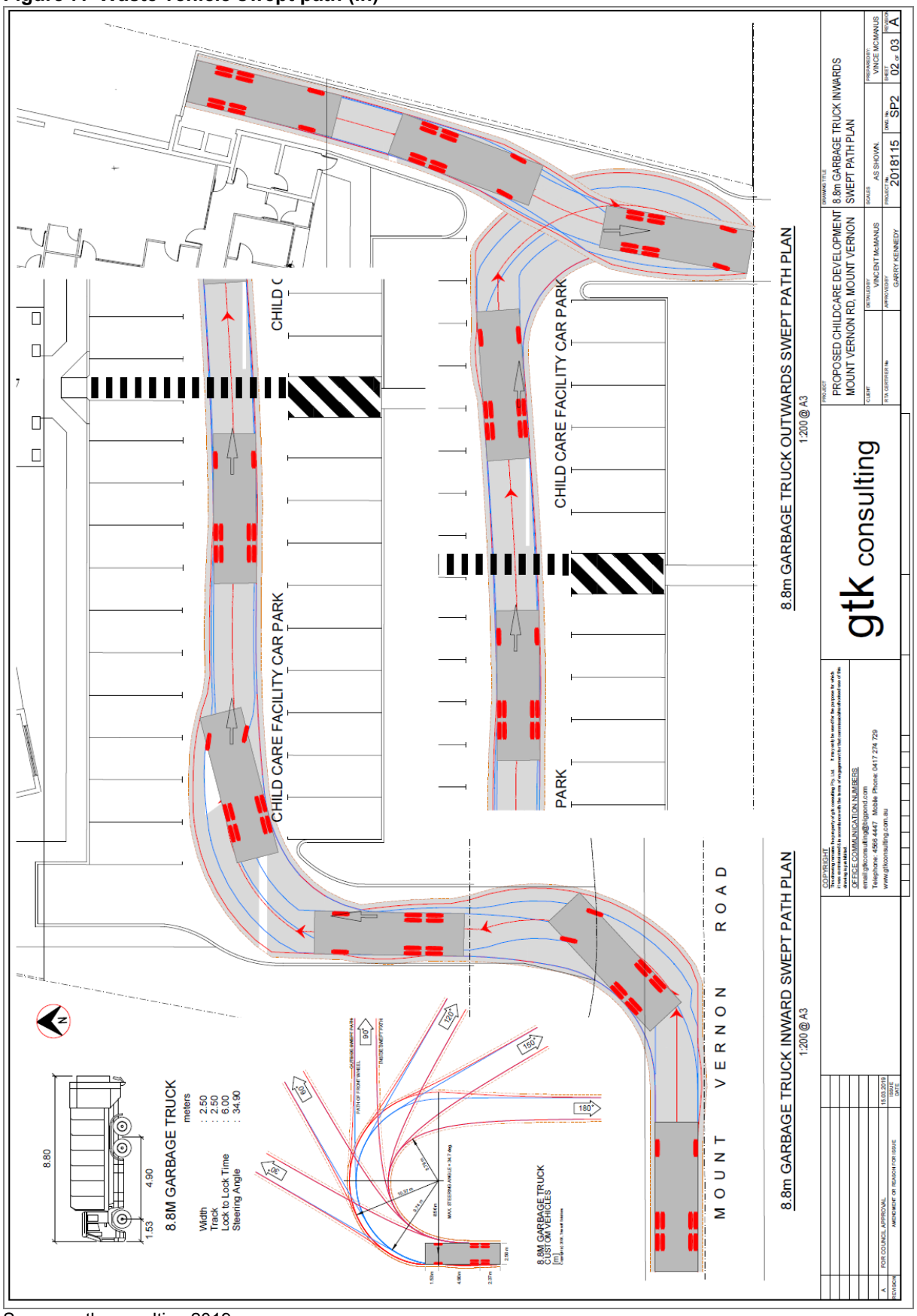
In accordance with Table 3.1 of AS 2890.1:2004 the car parking for the proposed child care centre is a Class 3 facility. The proposed entrance driveway for the car parking area is 4.5 metres wide, the exit driveway 4.8 metres wide and the traffic aisle between car parking spaces is 6.2 metres, all of which comply with Table 3.2 of the Standard for a car parking facility between 25 and 100 spaces.

6.3 SERVICES VEHICLES

Waste collection will be undertaken by an 8.8 metre medium rigid vehicle (MRV).
These vehicles will enter the site outside of the AM and PM peak periods. Swept path plans for access to the bin collection area is provided in **Figures 7** and **8**.

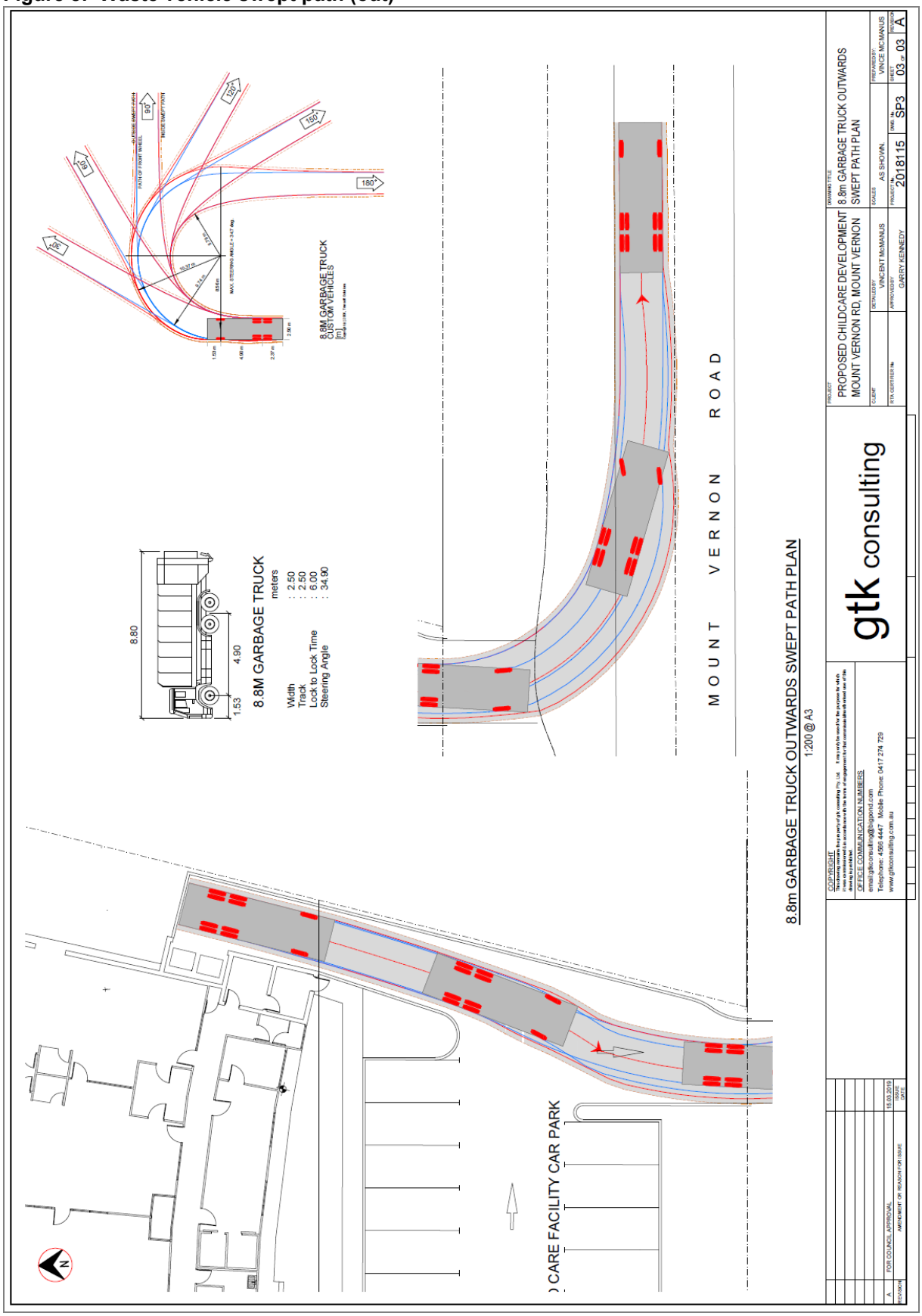
A minibus will set down and pick up children from the bay on the eastern side of the car park. A swept path plan showing access to and from the minibus bay is provided in **Figure 9**.

Figure 7: Waste vehicle swept path (in)



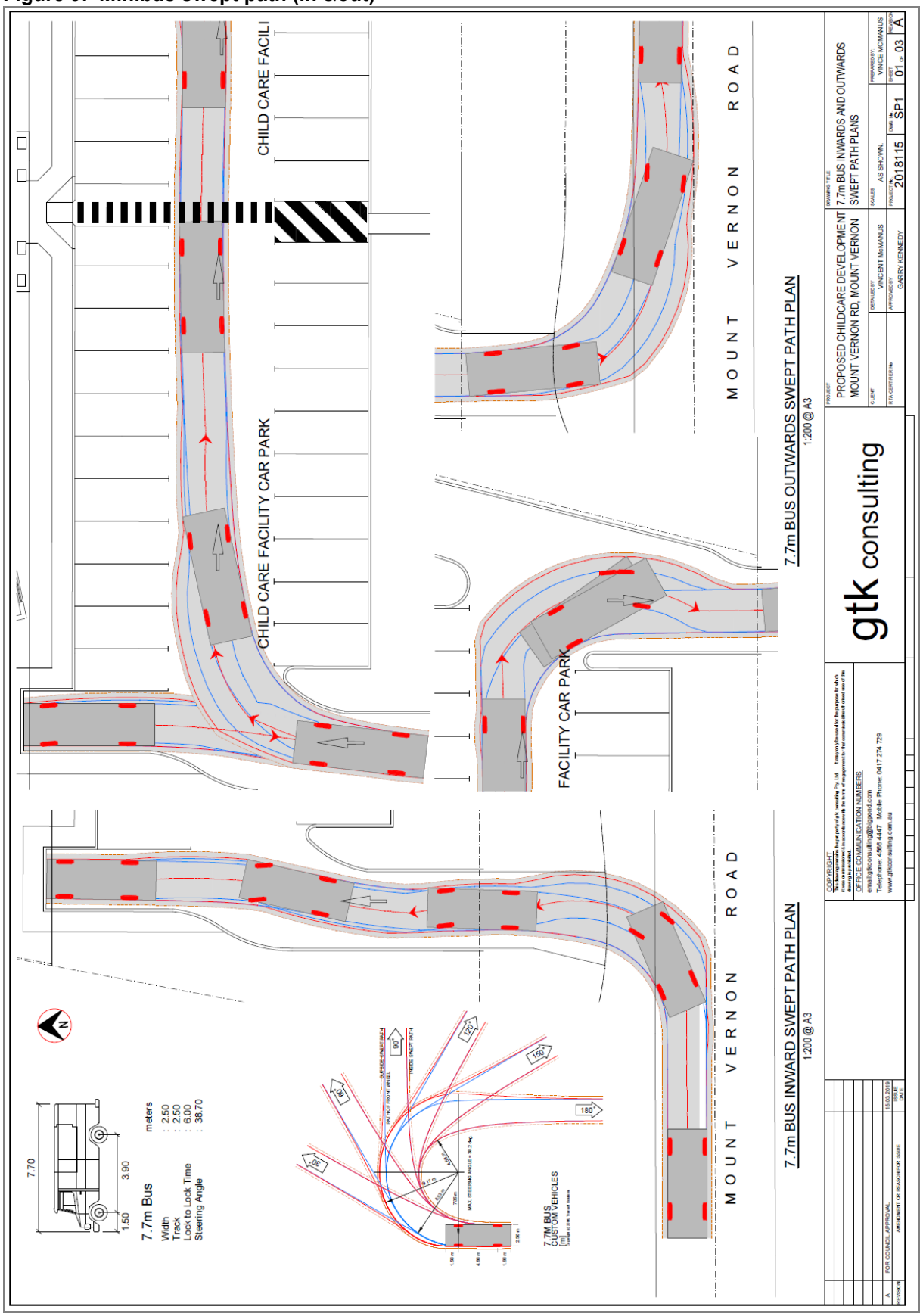
Source: gtk consulting 2019

Figure 8: Waste vehicle swept path (out)



Source: gtk consulting 2019

Figure 9: Minibus swept path (in &out)



Source: gtk consulting 2019

7 CONCLUSION

The proposal to establish a child care centre for 120 children at 110-112 Mount Vernon Road, Mount Vernon has been assessed to determine the suitability of the proposal in relation to Council's DCP, Australian Standards, RMS guidelines and the likely traffic impacts on the surrounding road network.

Assessment of the proposal indicates that:

- The provision of 34 car parking spaces (including 2 spaces for persons with a disability) meets the requirements of the DCP.
- The car parking layout complies with AS 2890.1:2004 *Off-Street Car Parking* and AS 2890.6:2009 *Off-Street Parking for People with a Disability*.
- Driver sight distance from the proposed egress driveway onto Mount Vernon Road exceeds the requirements of AS 2890.1:2004.
- Pedestrian sightlines from the proposed egress driveway comply with the sight line requirements of AS 2890.1:2004.
- Waste vehicles will access the site out of the AM and PM peak periods.
- The operation of a minibus for pick-up and return of children to their place of residence will reduce traffic volumes and car parking demand.
- The traffic generated by the proposed development is moderate and will not present any unsatisfactory traffic safety or capacity issues on the existing or future road network.

This assessment concludes that the traffic impact, road safety and car parking elements of the proposed child care centre at 110-112 Mount Vernon Road, Mount Vernon comply with the relevant standards and guidelines for such developments and is worthy of approval.

Garry Kennedy

Director