MIDSON traffic pty ltd

S Group

46 Elwick Road, Glenorchy
Traffic Impact Assessment

November 2026

GLENORCHY CITY COUNCIL
PLANNING SERVICES

APPLICATION No. :PLN-26-016

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1. Introduction

1.1 Background

Midson Traffic were engaged by S-Group to prepare a traffic impact assessment for a proposed residential unit development at 46 Elwick Road, Glenorchy.

The proposal involves demolishing the existing dwelling and outbuildings on the site and building five two-bedroom units. Access will be via a new 6-metre-wide crossover and a shared internal driveway to Elwick Road. On-site parking will provide ten resident spaces (two per unit) and two visitor spaces. The development also requires the existing bus stop on Elwick Road to be relocated to make room for the new crossover.

1.2 Traffic Impact Assessment (TIA)

A traffic impact assessment (TIA) is a process of compiling and analysing information on the impacts that a specific development proposal is likely to have on the operation of roads and transport networks. A TIA should not only include general impacts relating to traffic management, but should also consider specific impacts on all road users, including on-road public transport, pedestrians, cyclists and heavy vehicles.

This TIA has been prepared in accordance with the Building Tasmania publication, *Traffic Impact Assessment Guidelines*, August 2020. This TIA has also been prepared with reference to the Austroads publication, *Guide to Traffic Management,* Part 12: *Integrated Transport Assessments for Developments*, 2020.

Land use developments generate traffic movements as people move to, from and within a development. Without a clear understanding of the type of traffic movements (including cars, pedestrians, trucks, etc), the scale of their movements, timing, duration and location, there is a risk that this traffic movement may contribute to safety issues, unforeseen congestion or other problems where the development connects to the road system or elsewhere on the road network. A TIA attempts to forecast these movements and their impact on the surrounding transport network.

A TIA is not a promotional exercise undertaken on behalf of a developer; a TIA must provide an impartial and objective description of the impacts and traffic effects of a proposed development. A full and detailed assessment of how vehicle and person movements to and from a development site might affect existing road and pedestrian networks is required. An objective consideration of the traffic impact of a proposal is vital to enable planning decisions to be based upon the principles of sustainable development.

This TIA also addresses the relevant clauses of C2.0, *Parking and Sustainable Parking Code*, and C3.0, *Road and Railway Assets Code*, of the Tasmanian Planning Scheme – Glenorchy.

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1.3 Statement of Qualification and Experience

This TIA has been prepared by an experienced and qualified traffic engineer in accordance with the requirements of Council's Planning Scheme and The Department of State Growth's, *Traffic Impact Assessment Guidelines*, August 2020, as well as Council's requirements.

The TIA was prepared by Keith Midson. Keith's experience and qualifications are briefly outlined as follows:

- 31 years professional experience in traffic engineering and transport planning.
- Master of Transport, Monash University, 2006
- Master of Traffic, Monash University, 2004
- Bachelor of Civil Engineering, University of Tasmania, 1995
- Engineers Australia: Fellow (FIEAust); Engineering Executive (EngExec)

1.4 Project Scope

The project scope of this TIA is outlined as follows:

- Review of the existing road environment in the vicinity of the site and the traffic conditions on the road network.
- Provision of information on the proposed development with regards to traffic movements and activity.
- Identification of the traffic generation potential of the proposal with respect to the surrounding road network in terms of road network capacity.
- Review of the parking requirements of the proposed development. Assessment of this parking supply with Planning Scheme requirements.
- Traffic implications of the proposal with respect to the external road network in terms of traffic efficiency and road safety.

1.5 Subject Site

The subject site is located at 46 Elwick Road, Glenorchy (CT 214496/1). The site is a long, narrow lot of approximately 1,394 m². It has a frontage of approximately 15 metres to Elwick Road and extends approximately 91 metres back from the road. The land falls gently away from Elwick Road towards the rear of the site.

The site currently contains a single dwelling and associated outbuildings. Vehicle access is provided via an existing crossover to Elwick Road. An existing Metro bus stop is located on Elwick Road adjacent to the site frontage.

The site is zoned General Residential under the Tasmanian Planning Scheme – Glenorchy. The surrounding area is predominantly residential and is characterised by single dwellings and multiple dwelling developments on similarly sized lots. The site is located approximately 200 metres from the Brooker Highway and approximately 700 metres from the Glenorchy CBD.

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The subject site and surrounding road network is shown in Figure 1.

Figure 1 Subject Site & Surrounding Road Network



Image Source: LIST Map, DRNE

1.6 Reference Resources

The following references were used in the preparation of this TIA:

- Tasmanian Planning Scheme – Glenorchy, 2021 (Planning Scheme)
- Austroads, *Guide to Traffic Management,* Part 12: *Integrated Transport Assessments for Developments*, 2020
- Austroads, Guide to Road Design, Part 4A: Unsignalised and Signalised Intersections, 2026
- Building Tasmania, *Traffic Impact Assessment Guidelines*, 2020
- Transport NSW, *Guide to Traffic Impact Assessment*, 2024 (TfNSW Guide)
- Australian Standards, AS2890.1, *Off-Street Parking*, 2004 (AS2890.1)

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2. Existing Conditions

2.1 Transport Network

For the purposes of this report, the transport network consists of Elwick Road only.

Elwick Road connects the Brooker Highway at its northeastern end and Main Road at its southwestern end. It functions as a major collector road, providing the main link between the Brooker Highway and the Glenorchy CBD. Elwick Road carries approximately 20,000 vehicles per day. Based on a typical peak hour factor of 10%, this equates to approximately 2,000 vehicles per hour during peak periods.

In the vicinity of the site, Elwick Road has a sealed pavement width of approximately 10 metres, with one traffic lane in each direction. Kerb-side parking is generally permitted on both sides of the road. Footpaths are provided on both sides of Elwick Road. The general urban speed limit of 50 km/h is applicable to Elwick Road.

Elwick Road adjacent to the subject site is shown in Figure 2.

Figure 2 Elwick Road





2.2 Public Transport

Metro Tasmania operate regular public transport services along Elwick Road (notably routes 511, 512, 530, 694, 720, 560 and 561). Bus stops are located in close proximity to the subject site.

Bus routes near the subject site are shown in Figure 3.

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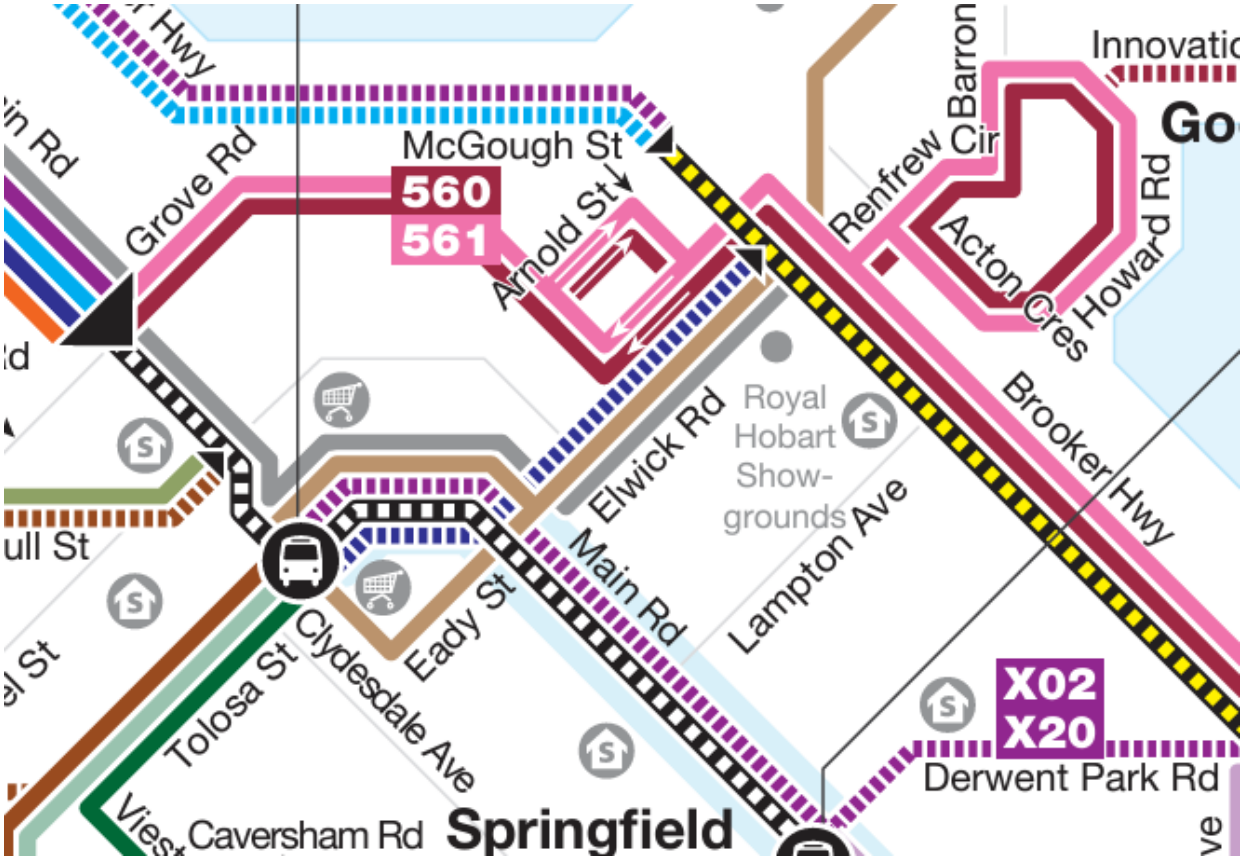
Figure 3 Metro Tasmania Glenorchy Bus Routes



Source: Metro Tasmania

2.3 Road Safety Performance

Crash data can provide valuable information on the road safety performance of a road network. Existing road safety deficiencies can be highlighted through the examination of crash data, which can assist in determining whether traffic generation from the proposed development may exacerbate any identified issues.

Crash data was obtained from Building Tasmania for a 5+ year period between 1st January 2021 and 30th September 2026 for Elwick Road between Grove Road and McGough Street, including the intersections at each end.

The findings of the crash data is summarised as follows:

- Total crashes. A total of 23 crashes were reported during the 5+ year period. This equates to approximately 4 crashes per year.
- Severity. No fatal or serious injury crashes were reported. Of the 23 crashes, 1 was a first aid crash, 2 were minor injury crashes and the remaining 20 were property damage only.

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- Time of day. Crashes were concentrated in the afternoon peak period: 18 of the 23 crashes (78%) occurred between 3:00pm and 7:00pm. The remaining crashes occurred between 8:50am and 2:30pm. No crashes were reported at night between 7:00pm and 6:00am.
- Day of week. Crashes occurred predominantly on weekdays, with 20 crashes on weekdays and 3 on weekends. Friday had the highest number of crashes (7).
- Crash types. Intersection crashes were the most common type, with 7 cross traffic crashes (DCA 110). There were also 2 left near (DCA 116), 2 right near (DCA 113) and 1 right far (DCA 111) crash. There were 4 rear end or same direction crashes (DCA 130, 131 and 139), 1 cutting in crash (DCA 153), 1 other manoeuvring crash (DCA 149) and 1 single vehicle off-path on curve crash (DCA 189). The crash type was not recorded for 4 crashes.
- Crash locations. The locations of the crashes are shown in Figure 3. The intersection of Elwick Road and Grove Road/Grayton Street accounted for 16 of the 23 crashes (70%), including all 7 cross traffic crashes. One crash was reported at each of the Haslemere Street and McGough Street intersections. The remaining 5 crashes occurred at mid-block locations along Elwick Road. These were mostly same direction and manoeuvring type crashes and did not form any identifiable cluster.
- Vulnerable road users. No crashes involving pedestrians, cyclists or motorcyclists were reported during the 5+ year period. All crashes involved light vehicles only.

The crash history of Elwick Road is typical of a major collector road carrying high traffic volumes. The severity of crashes is low: no fatal or serious injury crashes were reported, and 87% of crashes resulted in property damage only. Most crashes occurred in the weekday afternoon peak, which matches the times of highest traffic volumes. This suggests that crash frequency is mainly driven by traffic exposure rather than by deficiencies in the road environment.

The Grove Road intersection accounts for most of the reported crashes, and these are mainly cross traffic crashes. This reflects the high conflicting traffic volumes at the intersection rather than any particular road safety deficiency in its layout or operation. The mid-block crashes are dispersed along Elwick Road with no identifiable cluster, and no crashes involving vulnerable road users were reported. On this basis, the crash data does not indicate any existing road safety issue that would be exacerbated by the relatively low traffic generation of the proposed development.

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Figure 4 Crash Locations



Source: Building Tasmania

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3. Proposed Development

3.1 Development Proposal

The proposed development involves demolishing the existing dwelling and outbuildings and building five single storey residential units. Each unit has two bedrooms and a study, with a floor area of approximately 93 m².

The units are arranged in a row along the northern side of the site and are served by a shared driveway along the southern side. The shared driveway has a minimum width of 5.5 metres and narrows to approximately 4.4 metres adjacent to Units 4 and 5. A turning bay is provided between Units 3 and 4, so that vehicles can enter and exit the site in a forward direction.

Car parking is provided as follows:

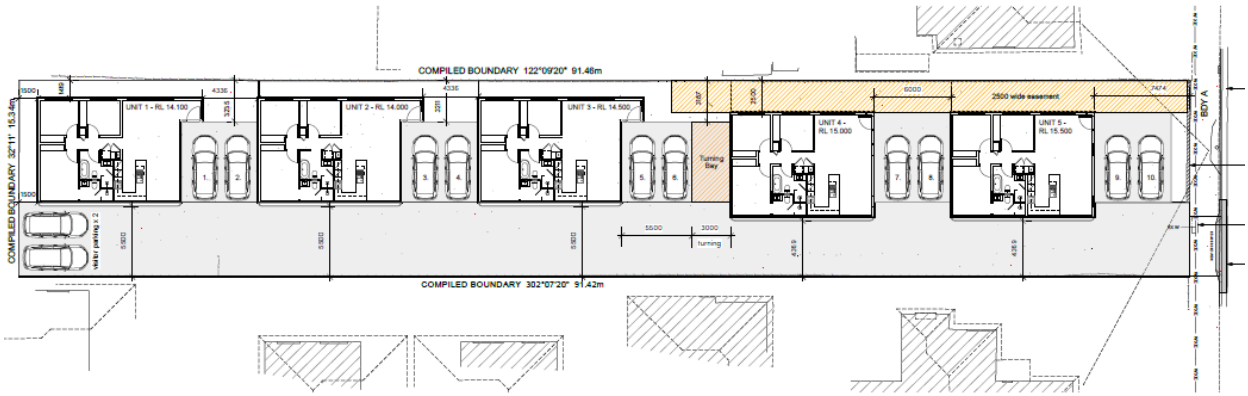
- Two side-by-side car parking spaces for each unit, adjacent to the unit (10 spaces in total)
- Two visitor car parking spaces at the western end of the shared driveway

Vehicle access will be via a new 6-metre-wide crossover to Elwick Road, built in accordance with IPWEA standard drawing TSD-R09. The new crossover will be located south of the existing crossover. The existing crossover will be removed and the kerb and gutter reinstated. The existing bus stop on Elwick Road will be relocated to provide clearance to the new crossover, subject to Council and Metro Tasmania approval.

Waste bins will be stored within each unit's private open space, behind a fence.

The proposed development is shown in Figure 5.

Figure 5 Proposed Development Plans



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4. Traffic Impacts

4.1 Trip Generation

Traffic generation has been estimated with reference to the TfNSW Guide. For medium density residential dwellings in regional areas, the Guide provides the following vehicle trip generation rates:

- AM peak hour: 0.41 vehicle movements per dwelling.
- PM peak hour: 0.60 vehicle movements per dwelling.
- Daily: 3.67 vehicle movements per dwelling

For the purposes of this assessment, a daily traffic generation rate of 5 vehicle movements per dwelling has been adopted. A peak hour rate of 0.6 vehicle movements per dwelling has been adopted for both the AM and PM peak periods.

The proposed five-unit development is therefore expected to generate approximately 25 vehicle movements per day, with a peak hour generation of approximately 3 vehicle movements. These totals include both arrivals and departures.

The site currently contains a single dwelling, which is estimated to generate approximately 8 vehicle movements per day, with a peak hour generation of approximately 1 vehicle movement. This traffic is already present on the surrounding road network.

The net increase in traffic generation from the proposed development is therefore approximately 17 vehicle movements per day and 2 vehicle movements in the peak hour. This represents an average of roughly one additional vehicle movement every 30 minutes during the peak period.

4.2 Trip Assignment

Elwick Road carries relatively high traffic volumes. As a result, right turn movements into and out of the site are likely to be more challenging than left turn movements, especially during peak periods. Residents are therefore expected to favour left-in and left-out movements at the site access where practical, and to use the wider road network to reach their destinations.

For the purposes of this assessment, the following trip assignment has been assumed at the site access:

- 70% of movements left-in/left-out
- 30% of movements right-in/right-out

Based on the peak hour generation of approximately 3 vehicle movements, this equates to approximately 2 left turn movements and 1 right turn movement at the access in the peak hour.

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4.3 Traffic Capacity Analysis

The proposed development is expected to generate approximately 3 vehicle movements in the peak hour. This is a net increase of approximately 2 vehicle movements per hour above the existing use of the site. A traffic volume this low will not have a measurable impact on the capacity or level of service of Elwick Road or any nearby intersections. Detailed capacity analysis is therefore not considered necessary.

4.4 Access Impacts

The proposed development will relocate the existing site access connecting to Elwick Road a short distance to the south.

The Acceptable Solution A1.4 of Clause C3.5.1 of the Planning Scheme states "*Vehicular traffic to and from the site, using an existing vehicle crossing or private level crossing, will not increase by more than the amounts in Table C3.1*".

For a non-major road, Table C3.1 specifies a maximum increase of 20% or 40 vehicle movements per day, whichever is greater. The access will have an increase of approximately 17 vehicles per day and therefore satisfies the requirements of Acceptable Solution A1.4 of Clause C3.5.1 of the Planning Scheme.

4.5 Sight Distance

Australian Standards, AS2890.1, provide the sight distance requirements for residential driveways. Sight distance requirements are lower for driveways compared to road junctions.

The minimum sight distance requirements for a driveway access in a 50-km/h frontage road is 45 metres.

The available sight distance is approximately 90 metres to the southwest and unrestricted to Brooker Highway to the northeast (approximately 210 metres). The available sight distance therefore satisfies AS2890.1 requirements.

4.6 Pedestrian Impacts

The proposed development is expected to generate a low level of pedestrian activity, consistent with its residential use and scale of five dwellings. Most pedestrian movements within the site will comprise short trips between the dwellings and their associated parking spaces, together with movements to and from the external footpath network.

The driveway and parking areas will act as a shared area where pedestrians have priority over traffic movements.

The Acceptable Solution A1 of Clause C2.6.5 of the Planning Scheme states:

> *"Uses that require 10 or more car parking spaces must:*
>
> *(a) have a 1m wide footpath that is separated from the access ways or parking aisles, excluding where crossing access ways or parking aisles, by:*
>
> *(i) a horizontal distance of 2.5m between the edge of the footpath and the access way or parking aisle; or*

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(ii) protective devices such as bollards, guard rails or planters between the footpath and the access way or parking aisle; and

(b) be signed and line marked at points where pedestrians cross access ways or parking aisles".

No separate footpath is provided within the site; pedestrians will share the driveway with vehicles. The pedestrian arrangements therefore do not satisfy the separation requirements of Acceptable Solution A1 of Clause C2.6.5 of the Planning Scheme and require assessment against Performance Criterion P1.

Performance Criterion P1 of Clause C2.6.5 states:

"Safe and convenient pedestrian access must be provided within parking areas, having regard to:

(a) the characteristics of the site;

(b) the nature of the use;

(c) the number of parking spaces;

(d) the frequency of vehicle movements;

(e) the needs of persons with a disability;

(f) the location and number of footpath crossings;

(g) vehicle and pedestrian traffic safety;

(h) the location of any access ways or parking aisles; and

(i) any protective devices proposed for pedestrian safety".

The following is relevant with respect to the proposed development:

(a) Characteristics of the site

The site is a long, narrow lot with a frontage of approximately 15 metres and a depth of approximately 91 metres. The five units are arranged in a row along the northern side of the site, served by a single shared driveway along the southern boundary. The driveway is a dead end and does not provide a through route. It will carry only traffic associated with the development. The narrow width of the site limits the ability to provide a separate footpath alongside the driveway while maintaining an appropriate driveway width.

(b) Nature of the use

The proposed use is residential. Pedestrian activity will mainly involve residents and visitors moving between the dwellings, parking spaces and the Elwick Road footpath. Residents will be familiar with the layout of the site and will expect pedestrians to be present within the driveway. The parking spaces for each unit are located directly next to the unit entry, so pedestrian movements between vehicles and dwellings are short and direct and do not require walking along the driveway.

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(c) Number of parking spaces

The development provides 12 parking spaces, comprising 10 resident spaces and two visitor spaces. The resident spaces are spread along the site next to each unit, which disperses pedestrian activity. The visitor spaces are located at the western end of the driveway. Visitors walking to the eastern units will therefore walk along part of the driveway. These movements will be infrequent.

(d) Frequency of vehicle movements

The development will generate approximately 25 vehicle movements per day, including approximately 3 movements during the peak hour. This equates to an average of one vehicle movement every 20 minutes during the peak period. Many vehicles will travel only part of the driveway length to reach the parking spaces of the eastern units. The low frequency of vehicle movements limits the potential for conflict between pedestrians and vehicles.

(e) Needs of persons with a disability

The driveway has generally flat longitudinal grades along its length, and parking is located directly next to each dwelling entry. This keeps travel distances short for people with reduced mobility. The driveway surface should be firm and even. Transitions between the driveway, parking areas and unit entries should be flush or appropriately ramped where required.

(f) Location and number of footpath crossings

The development will have a single vehicle crossing across the Elwick Road footpath, replacing the existing crossover. The number of footpath crossings associated with the site therefore remains unchanged. Within the site, pedestrians do not need to cross the driveway to move between a unit and its parking spaces.

(g) Vehicle and pedestrian traffic safety

Vehicle speeds within the driveway are expected to be very low. This is due to the private residential setting, the short travel distances and the manoeuvres into and out of parking spaces and the turning bay. At 4.4 to 5.5 metres wide, the driveway allows a vehicle to pass a pedestrian safely. Its straight alignment provides clear visibility between drivers and pedestrians along its length.

(h) Location of access ways or parking aisles

The site has a simple layout with one straight driveway and parking spaces located directly next to the units. Pedestrian and vehicle routes are easy to see and understand. Visitors can easily find their way between the visitor spaces, the dwellings and Elwick Road.

(i) Protective devices proposed for pedestrian safety

No protective devices are proposed. Given the low traffic volumes, the expected low vehicle speeds and the short pedestrian movements between parking spaces and dwellings, bollards or similar devices are not considered necessary to provide safe and convenient pedestrian access. Such devices would also reduce the effective driveway width and obstruct manoeuvring into and out of parking spaces.

Based on the above assessment, the shared driveway will provide safe and convenient pedestrian access within the development. The development serves only five dwellings and generates very low vehicle movement frequencies. Its straight layout gives good visibility, and parking is located next to each dwelling,

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so pedestrian movements are short. The proposed arrangements therefore satisfy Performance Criterion P1 of Clause C2.6.5 of the Planning Scheme.

4.7 Road Safety Impacts

The proposed development will generate approximately 25 vehicle movements per day, with approximately 3 movements during the peak hour. This is a net increase of approximately 17 vehicle movements per day and 2 movements in the peak hour above the existing use of the site. This represents a very low increase in traffic, which is unlikely to change the road safety performance of Elwick Road or the surrounding road network.

Section 2.2 found that most crashes on Elwick Road between Grove Road and McGough Street occurred at the Grove Road intersection. These crashes reflect the high conflicting traffic volumes at that intersection. The five mid-block crashes were dispersed along Elwick Road, with no identifiable cluster. The crash history does not indicate a recurring pattern of driveway-related crashes along Elwick Road.

The new crossover will replace the existing crossover, so the number of access points to Elwick Road will not increase. The proposed access will provide adequate sight distance in accordance with AS2890.1 requirements. The 5.5-metre-wide driveway at the property boundary will accommodate simultaneous entry and exit movements.

The turning bay within the site will allow all vehicles to enter and leave the site in a forward direction. This avoids reversing movements onto Elwick Road.

Within the site, low traffic volumes and expected low vehicle speeds will limit the potential for conflicts between vehicles and pedestrians. Parking is located directly next to each dwelling, so pedestrian movements along the shared driveway are short.

Based on the low traffic generation, the available sight distance, the forward entry and exit arrangements and the internal pedestrian arrangements, the development is not expected to adversely affect road safety.

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5. Parking Assessment

5.1 Parking Provision

The proposed development provides a total of 12 on-site car parking spaces. These comprise two spaces for each of the five dwellings and two dedicated visitor spaces.

The resident parking spaces, identified as spaces 1 to 10 on the development plans, are arranged in side-by-side pairs perpendicular to the shared driveway. Each pair is located directly next to its dwelling. The two visitor spaces are located at the western end of the shared driveway, beyond Unit 1.

5.2 Planning Scheme Requirements

The Acceptable Solution A1 of Clause C2.5.1 of the Planning Scheme states:

> *"The number of on-site car parking spaces must be no less than the number specified in Table C2.1, less the number of car parking spaces that cannot be provided due to the site including container refund scheme space, excluding if:*
>
> *(a) the site is subject to a parking plan for the area adopted by council, in which case parking provision (spaces or cash-in-lieu) must be in accordance with that plan;*
>
> *(b) the site is contained within a parking precinct plan and subject to Clause C2.7;*
>
> *(c) the site is subject to Clause C2.5.5; or*
>
> *(d) it relates to an intensification of an existing use or development or a change of use where:*
>
> *(i) the number of on-site car parking spaces for the existing use or development specified in Table C2.1 is greater than the number of car parking spaces specified in Table C2.1 for the proposed use or development, in which case no additional on-site car parking is required; or*
>
> *(ii) the number of on-site car parking spaces for the existing use or development specified in Table C2.1 is less than the number of car parking spaces specified in Table C2.1 for the proposed use or development, in which case on-site car parking must be calculated as follows:*
>
> *N = A + (C- B)*
>
> *N = Number of on-site car parking spaces required*
>
> *A = Number of existing on site car parking spaces*
>
> *B = Number of on-site car parking spaces required for the existing use or development specified in Table C2.1*
>
> *C= Number of on-site car parking spaces required for the proposed use or development specified in Table C2.1".*

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For residential development in the General Residential Zone, Table C2.1 specifies two spaces per dwelling containing two or more bedrooms. Visitor parking for multiple dwellings is required at a rate of one dedicated space per four dwellings, rounded up to the nearest whole number. The proposed five-unit development therefore requires 10 resident spaces and 2 visitor spaces.

The provision of 12 on-site car parking spaces therefore satisfies the requirements of Acceptable Solution A1 of Clause C2.5.1 of the Planning Scheme.

5.3 Car Parking Layout

The Acceptable Solution A1.1 of Clause C2.6.2 of the Planning Scheme states:

"Parking, access ways, manoeuvring and circulation spaces must either:

(a) comply with the following:

(i) have a gradient in accordance with Australian Standard AS 2890 - Parking facilities, Parts 1-6;

(ii) provide for vehicles to enter and exit the site in a forward direction where providing for more than 4 parking spaces;

(iii) have an access width not less than the requirements in Table C2.2;

(iv) have car parking space dimensions which satisfy the requirements in Table C2.3;

(v) have a combined access and manoeuvring width adjacent to parking spaces not less than the requirements in Table C2.3 where there are 3 or more car parking spaces;

(vi) have a vertical clearance of not less than 2.1m above the parking surface level; and

(vii) excluding a single dwelling, be delineated by line marking or other clear physical means; or

(b) comply with Australian Standard AS 2890- Parking facilities, Parts 1-6".

The car parking was assessed against the requirements of A1.1(b) of the Planning Scheme. The relevant Australian Standards associated with the development is AS2890.1. The assessment is provided in the following sections.

5.3.1 Gradient

Section 2.5.3(b) of AS2890.1 states the following regarding the maximum grade of straight ramps and driveways:

- Longer than 20 metres – 1 in 5 (20%) maximum.
- Up to 20 metres long – 1 in 4 (25%) maximum. The allowable 20 m maximum length shall include any parts of the grade change transitions at each end that exceed 1 in 5 (20%).

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The driveway long section (Gandy and Roberts drawing C201, Rev C) shows a driveway length of approximately 97 metres. The steepest grade is 5.5% (1 in 18), across the crossover. Within the site, grades along the driveway range from 0.9% to 4.6%. The grade over the first 6 metres inside the property boundary is 4.1%. The largest change of grade is approximately 7.5%, at the crossover, which is below the 12.5% summit and 15% sag thresholds above which AS2890.1 requires grade transitions.

The driveway grades therefore comply with the requirements of Section 2.5.3 of AS2890.1.

5.3.2 Parking Grade

Section 2.4.6 of AS2890.1 states that the maximum grades within a car park shall be:

- Measured parallel to the angle of parking 1 in 20 (5%)
- Measured in any other direction 1 in 16 (6.25%)

The grades of the parking spaces are typically between 1% and 5%, thus complying with the AS2890.1 grade requirements.

5.3.3 Parking Space Dimensions

AS2890.1 defines the parking as User Class 1A, *Residential, Domestic and Employee Parking*. Parking dimension requirements for 90-degree parking for User Class 1A are:

- Space length 5.4 metres
- Space width 2.4 metres
- Aisle width 5.8 metres

All resident spaces are 3.0 metres wide, with the exception of space 6, which is 2.5 metres wide. All parking spaces therefore comply with AS2890.1 dimensional requirements, noting that the aisle width exceeds minimum requirement for all spaces (resident parking spaces have aisle width of 6.4 metres), and all spaces exceed space width requirements (resident spaces are 2.5 or 3 metres and visitor spaces are 2.6 metres).

5.3.4 Driveway Width

AS2890.1 defines each of the driveway accesses as 'Category 1' access facility (Class 1A parking with less than 25 spaces fronting onto a local road). The AS2890.1 minimum driveway width requirement for a Category 1 access is 3.0 metres.

The width of the access driveway complies with this requirement.

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5.3.5 Circulation Roadway

The shared driveway within the site acts as the circulation roadway for the development. It has a width of 5.5 metres and widens to 6.4 metres in front of the 90-degree parking spaces. The driveway narrows to a minimum width of approximately 4.4 metres (4.37 metres) where it runs past the Unit 4 and Unit 5 buildings.

Section 3.2.2 of AS2890.1 sets out the width requirements for Category 1 access driveways and connecting circulation roadways. A minimum width of 5.5 metres is required for the access driveway and for at least the first 6 metres of the circulation roadway from the property boundary. This applies where the circulation roadway is 30 metres or longer, or sight distance along it is restricted, and the frontage road is an arterial or sub-arterial road. In other cases, the Standard says lesser widths, down to a minimum of 3.0 metres, may be provided, subject to consideration of traffic volumes on a case-by-case basis. As a guide, it states that 30 or more vehicle movements in a peak hour would usually require provision for two vehicles to pass. On long driveways, it states that passing opportunities should be provided at least every 30 metres.

The following is relevant with respect to the proposed development:

- Width at the frontage. The access driveway and the first 6 metres of the circulation roadway from the property boundary are at least 5.5 metres wide. Entering and exiting vehicles can therefore pass each other at the frontage, so a vehicle entering from Elwick Road will not have to wait on the road while another vehicle leaves the site. This meets the minimum width for the first 6 metres that Section 3.2.2 requires where the frontage road is an arterial or sub-arterial road.
- Traffic volumes. The development will generate approximately 3 vehicle movements in the peak hour. This is about one tenth of the 30 movements per hour at which the Standard suggests provision for two-way passing would usually be needed. The chance of two vehicles meeting within the narrower section is therefore very low.
- Passing opportunities. The driveway is 5.5 metres wide for most of its length and widens to 6.4 metres in front of the parking spaces. It narrows to approximately 4.4 metres only in two short sections beside the Unit 4 and Unit 5 buildings. These narrower sections are separated by the parking areas and the turning bay, so passing opportunities are provided at intervals well under 30 metres. Where two vehicles do meet, one can wait in a wider section until the other has passed.
- Sight distance. The driveway has a straight alignment, so drivers can see along the whole length of the circulation roadway. An entering driver can see a vehicle approaching from inside the site, and the reverse, and can wait in a wider section where needed.
- Reversing movements. The turning bay allows all vehicles to enter and leave the site in a forward direction. No vehicle will need to reverse onto Elwick Road, consistent with Section 3.2.2.

Based on the above, the minimum circulation roadway width of approximately 4.4 metres is acceptable under Section 3.2.2 of AS2890.1, given the low traffic volumes, the frequent passing opportunities, the straight alignment and the full 5.5-metre width provided at the frontage.

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5.3.6 Forward Entry and Exit

Vehicle turning paths were assessed using an AS2890.1 B85 design vehicle at the key parking spaces within the development. The simulations used a vehicle speed of 5 km/h. The turning paths are shown in Figure 6, where:

- The blue lines represent the physical extents of the vehicle;
- The red lines represent a 300 mm clearance envelope around the vehicle; and
- The green lines represent the wheel paths.

The swept paths show that vehicles can reverse out of the resident parking spaces into the shared driveway and then drive forward towards Elwick Road. The 300 mm clearance envelope stays within the driveway and parking areas throughout these manoeuvres. The turning bay between Units 3 and 4 gives vehicles a place to turn around within the site, for example a vehicle that needs to change direction partway along the driveway. A vehicle can reverse into the turning bay and then leave in a forward direction.

The turning path assessment therefore shows that all vehicles can enter and exit the site in a forward direction.

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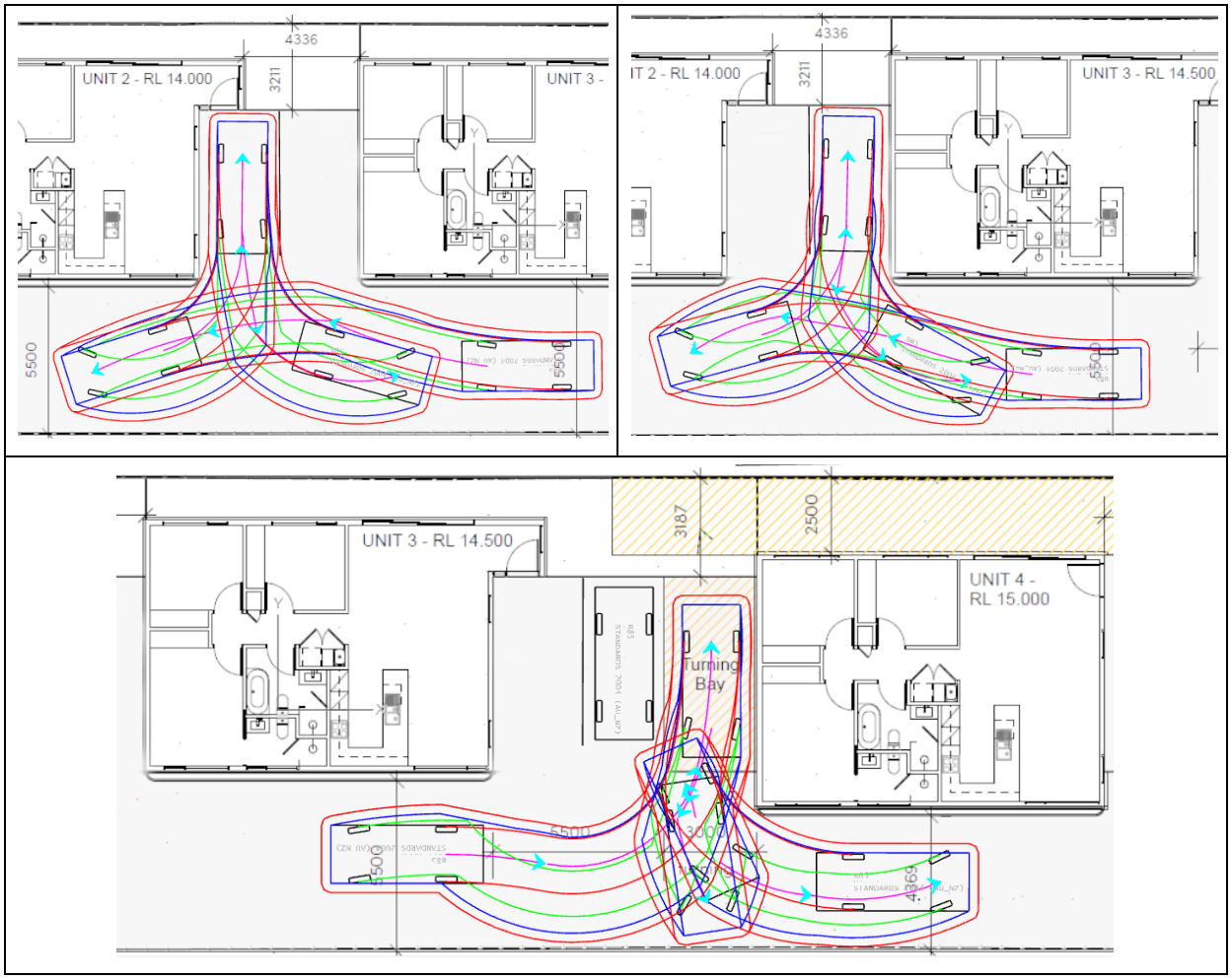
Figure 6 B85 Vehicle Manoeuvring



5.3.7 Parking Layout Summary

The car parking layout was assessed against the requirements of AS2890.1. The findings of the assessment are summarised as follows:

- Gradient. The driveway grades are a maximum of 5.5%, which is well within the AS2890.1 limits. Changes of grade are below the thresholds at which transitions are required.
- Parking grade. The parking spaces are effectively level, which complies with the AS2890.1 grade requirements.
- Parking space dimensions. The resident parking spaces are 5.4 metres long and 3.0 metres wide, except space 6, which is 2.5 metres wide. The aisle width in front of the parking spaces is 6.4 metres. All spaces meet or exceed the User Class 1A requirements.

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- Driveway width. The access driveway is 5.5 metres wide, which exceeds the 3.0-metre minimum for a Category 1 access facility. The width of the access at its connection with Elwick Road is 6 metres.
- Circulation roadway. The circulation roadway narrows to a minimum of approximately 4.4 metres beside Units 4 and 5. This is acceptable under Section 3.2.2 of AS2890.1, given the very low traffic volumes, the frequent passing opportunities and the straight alignment.
- Forward entry and exit. The B85 vehicle turning paths show that vehicles can enter and exit the site in a forward direction, with no reversing onto Elwick Road.

The car parking layout therefore complies with AS2890.1 and satisfies Acceptable Solution A1.1(b) of Clause C2.6.2 of the Planning Scheme.

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6. Conclusions

This traffic impact assessment (TIA) investigated the traffic and parking impacts of a proposed residential unit development at 46 Elwick Road, Glenorchy.

The key findings of the TIA are summarised as follows:

- The proposed development involves demolishing the existing dwelling and building five two-bedroom units, served by a shared driveway to Elwick Road.
- The crash history of Elwick Road is typical of a major collector road carrying high traffic volumes. Crashes were concentrated at the Grove Road intersection, and no fatal or serious injury crashes were reported. The crash data does not indicate any existing road safety issue that would be exacerbated by the proposed development.
- The development is expected to generate approximately 25 vehicle movements per day and 3 vehicle movements in the peak hour. This is a net increase of approximately 17 vehicle movements per day and 2 vehicle movements in the peak hour above the existing use of the site. This level of traffic will not have a measurable impact on the capacity or efficiency of Elwick Road.
- The traffic generation at the proposed access satisfies Acceptable Solution A1.4 of Clause C3.5.1 of the Planning Scheme.
- The available sight distance at the proposed access is approximately 90 metres to the west and approximately 210 metres to the east. Both exceed the minimum AS2890.1 requirement of 45 metres.
- The shared driveway will provide safe and convenient pedestrian access within the development and satisfies Performance Criterion P1 of Clause C2.6.5 of the Planning Scheme.
- The existing bus stop on Elwick Road be relocated to provide clearance to the new crossover, to the satisfaction of Council and Metro Tasmania.
- The new crossover be built in accordance with IPWEA standard drawing TSD-R09. The redundant crossover is to be removed and the kerb and gutter reinstated.
- The development provides 12 on-site car parking spaces, comprising 10 resident spaces and 2 visitor spaces. This satisfies Acceptable Solution A1 of Clause C2.5.1 of the Planning Scheme.
- The car parking layout complies with AS2890.1 and satisfies Acceptable Solution A1.1(b) of Clause C2.6.2 of the Planning Scheme. B85 vehicle turning paths show that all vehicles can enter and exit the site in a forward direction.

Based on the findings of this report the proposed development is supported on traffic and parking grounds.

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