

Transport Impact Assessment Report

3966 Jingellic Road, Tumbarumba NSW

Project Number 240198

Final Report 3/12/2024

Client Davey Grinter Holdings Pty Ltd as Trustee for the Davey Grinter Family Trust

Document control record

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Executive summary

Davey Grinter Holdings Pty Ltd as Trustee for the Davey Grinter Family Trust engaged Trafficworks to undertake a Transport impact assessment (TIA) for the proposed mixed-use development at **3966 Jingellic Road, Tumbarumba NSW**.

The table below summarises the site and the proposed development, and our conclusions and recommendations.

Address	3966 Jingellic Road, Tumbarumba NSW
Zoning	General Industrial (E4)
Proposed development	Mixed-use industrial development consisting of: — extension of existing storage premises — proposed diesel refuelling station — proposed contractor's depot
Road network	Jingellic Road Corundum Road
Traffic generation	80 vph during the commuter peak hours
Car parking	Storage premises — parking requirement of 6 spaces (based on case study) — no parking provided on-site Diesel refuelling station — no parking spaces required in accordance with the statutory requirements per the DCP Contractor's depot — estimated parking requirement of 8 car parking spaces and 1 truck space — 12 car parking spaces provided on-site
Conclusion	We conclude there are no traffic engineering reasons that would prevent the development from proceeding, subject to implementation of our recommendations. — The provision of parking spaces for the diesel refuelling station and contractor's depot are appropriate. — The estimated car parking demand for the storage premises can be satisfied by the available space adjacent to storage units for drivers to park whilst loading / unloading.

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- Subject to the implementation of the recommendations in this report, the proposed car park access and layout complies with relevant standards.
 - The SISD criterion of 214 m for a design speed of 90 km/h is satisfied at the intersection of Jingellic Road and Corundum Road.
 - The minimum entering sight distance requirements of 45 m based on an operational speed limit of 50 km/h, as specified in AS/NZS 2890.1, is met at the subject site's existing southern driveway.
 - Jingellic Road at its intersection with Corundum Road provides a BAL turn lane
 - A right turn lane is not required due to the low right turning entries from Jingellic Road into Corundum Road.
-

Recommendations

It is recommended that:

- **Recommendation 1:** the width of the access aisle within the car park of the contractor's depot should be increased to 6.2 m in accordance with AS2890.1 for User class 1.
 - **Recommendation 2:** provide a bollard within the shared space for the accessible parking space in accordance with AS2890.6.
 - **Recommendation 3:** ensure ramps within the contractor's depot are designed in accordance with AS2890.2 for the use of semi-trailers.
 - **Recommendation 4:** the driveway is capable of complying, however during the detailed design of the proposed northern driveway, sight distance is checked to comply with the ESD requirement of 45 m for an operational speed limit of 50 km/h as stipulated in AS/NZS 2890.
-

Referenced documents

References used in the preparation of this report include the following:

- AS/NZS 2890.1:2004 Parking Facilities Part 1: Off-street car parking
- Austroads Guide to Road Design
- Austroads Guide to Traffic Management
- Transport for New South Wales (TfNSW):
 - Traffic Volume Viewer for the traffic volumes of freeways and arterial roads in the vicinity of the development
 - the TfNSW Centre for Road Safety website for the crash history of the road network in the vicinity of the development

- Snowy Valley Council
 - Local Environmental Plan 2010 (LEP).
 - Development Control Plan 2024 (DCP)

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1 Introduction

Davey Grinter Holdings Pty Ltd as Trustee for the Davey Grinter Family Trust engaged Trafficworks to undertake a transport impact assessment (TIA) for the proposed mixed-use development of at **3966 Jingellic Road, Tumbarumba NSW.**

For the detail about:

- existing site conditions – see section 2
- description of the proposed development – see section 3.1
- description of proposed development – see section 3
- car parking assessment of the proposed development – see section 4
- traffic impacts of the proposed development – see section 5
- assessment of the access to the proposed development – see section 6
- our conclusions and recommendations – see section 7.

2 Existing conditions

2.1 Subject site

The site is:

- located at 3966 Jingellic Road, Tumbarumba within Lot A DP338630.
- currently occupied by an existing storage premises

Vehicular access to the site is currently available as follows:

- an existing bitumen driveway on Corundum Road providing access to the existing storage premises
- a secondary access immediately north of the driveway to the existing storage premises providing access to the balance of the land.

Figure 1 shows the location of the site, which is surrounded predominantly by vacant land and an existing contractor's depot within the parcel of land (Lot 2 DP1031033) located immediately south of the site. To the north of the site is the Hyne Timber Tumbarumba Mill.



Figure 1: Location plan (sourced from Google maps)

Figure 2 shows the zoning for the site and surrounding area.

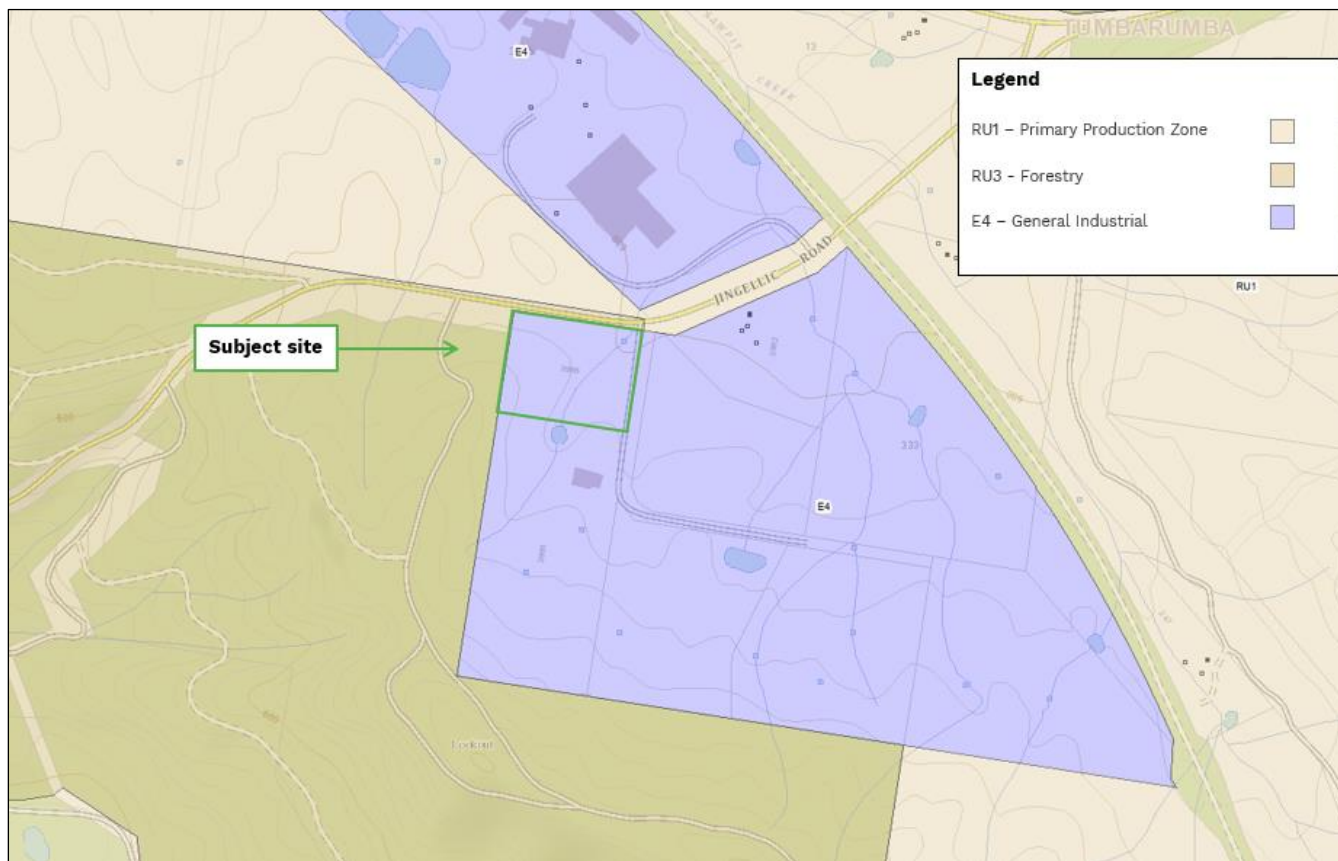


Figure 2: Zoning plan (reproduced from the NSW ePlanning Spatial Viewer)

2.2 Road network

The road network includes:

- Corundum Road
- Jingellic Road

2.2.1 Corundum Road

Table 1 describes the features of this road.

Table 1: Corundum Road features

Feature	Description
Road type	Local street under management of Snowy Valleys Council (council)
Access	Provides access between Jingellic Road to the north and terminates to the south
Road reservation	20 m wide

Feature	Description
Carriageway	7.3 m wide
Road cross section	— 2-way undivided unsealed road — no footpath and kerb and channel
Speed limit	100 km/h default rural speed limit

Figure 3 and Figure 4 provide further information about the road.



Figure 3: Corundum Road facing north on approach to Jingellic Road



Figure 4: Corundum Road facing south

2.2.2 Jingellic Road

Table 2 describes the features of this road.

Table 2: Jingellic Road features

Feature	Description
Road type	Arterial road managed by Transport for New South Wales (TfNSW)
Access	Provides access between Jingellic to the southwest and Tumbarumba Road and Mason Hill Road to the northeast
Road reservation	20 – 65 m wide
Road cross section	— 2-lane, 2-way undivided road consisting of: — 4 m eastbound lane — 3.5 m westbound lane — 1.5 m sealed shoulders — basic left turn lane (BAL) treatment into Corundum Road
Speed limit	Posted speed limit of 80 km/h

Figure 5 and Figure 6 provide further information about the road.



Figure 5: Jingellic Road facing east on approach to Corundum Road



Figure 6: BAL turn lane on Jingellic Road on approach to Corundum Road

2.3 Traffic volumes

Traffic counts on Jingellic Road, west of Tumbarumba Road were provided by TfNSW, for the period between Friday 1 November 2019 to Wednesday 20 November 2019.

Review of the survey results revealed that the highest traffic volumes were recorded during the first week of the surveys as follows:

- annual average daily travel (AADT) of volume 2,247 vehicles per day (vpd)
- average weekday AM commuter peak (9.00 to 10.00 am) of 198 vehicles per hour (vph)
 - 93 vph westbound
 - 105 vph eastbound
- average weekday PM commuter peak (3:00 pm – 4:00 pm) of 213 vph
 - 104 vph westbound
 - 109 vph eastbound.

2.4 Crash history

The TfNSW Centre for Road Safety website details all injury crashes on roads throughout New South Wales and reports that no casualty crashes have occurred on the roads in the vicinity of the subject site in the last 5 years of available data (2018 – 2022).

Based on this, we conclude that no crash trend requires immediate investigation.

3 Traffic assessment of the proposed development

3.1 The proposal

The proposed mixed-use industrial development includes:

- a contractor's depot for the storage and distribution of construction material and the maintenance of earthmoving machinery and trucks, which will consist of and operate as follows:
 - workshop (360 m²)
 - office building (247 m²)
 - open yard area for the stockpiling of construction material (3,200 m²)
 - 12 car parking spaces inclusive of one accessible space
 - 10 staff members on-site
 - transportation of material and heavy machinery to/from site via a 19 m semi-trailer and a 12.5 m heavy rigid truck.
- extension to the existing storage premises as follows:
 - additional 10 storage units (shipping containers) equalling 20 in total (143 m²)
 - proposed steel framed shelter for caravan storage (140 m²)
 - proposed storage yard used for overflow storage (3,040 m²)
- installation of an above ground diesel tank for retail sale with the largest vehicle expected to use the refuelling station being a B-double.

Vehicular access to the proposed development will be as follows:

- northern driveway to Corundum Road for access to the diesel refuelling station and contractor's depot. The existing secondary access (refer to Section 2.1) currently used to access the balance of the land will be removed upon its construction.
- the existing southern driveway for access to the storage premises.

An extract of the proposed development plan is represented in Figure 7, with the full set of plans in Appendix 1.

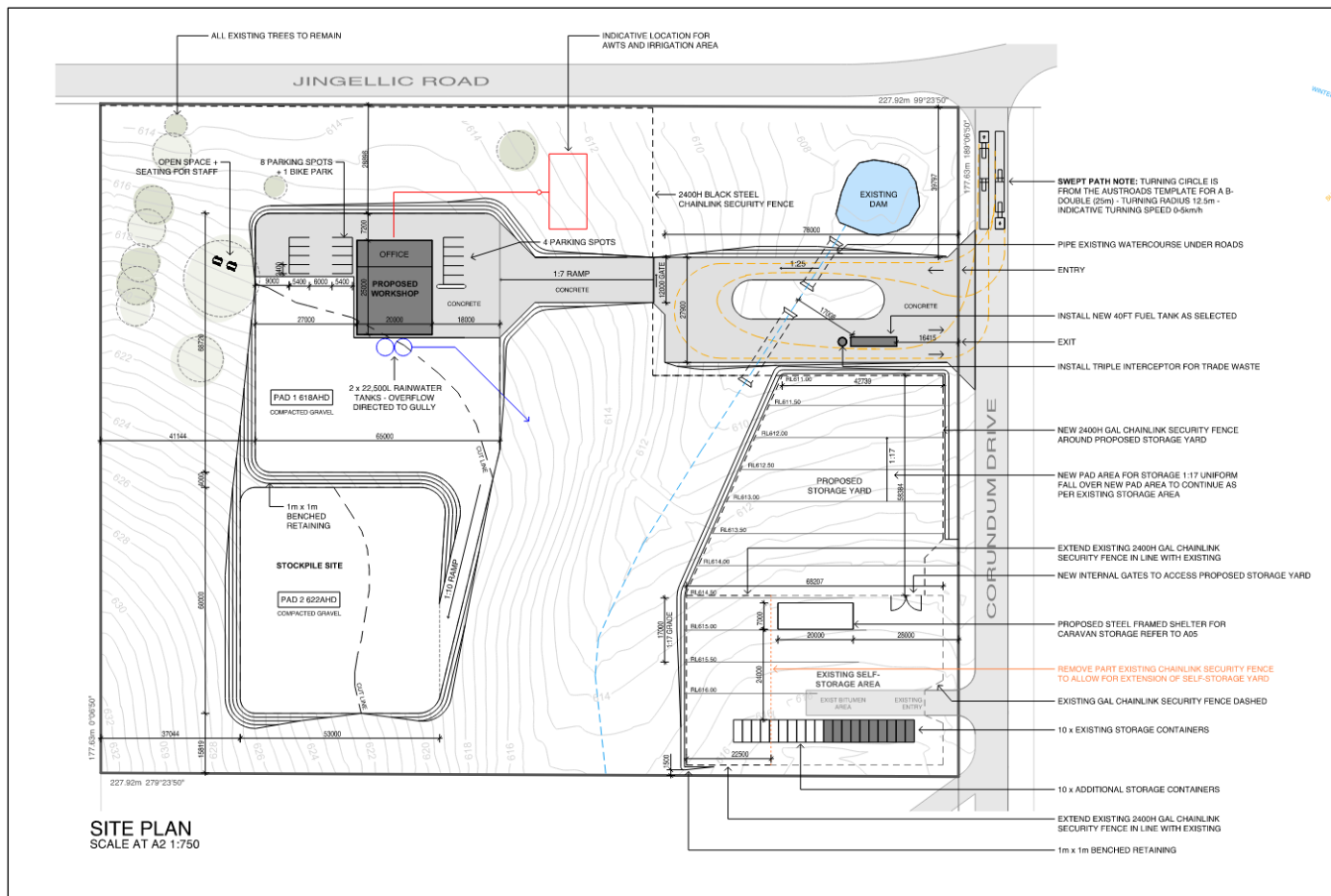


Figure 7: Proposed development plan

4 Car parking assessment of the proposed development

4.1 Planning scheme car parking assessment

Section 3.2.3 of the council's Development Control Plan (DCP) outlines the statutory requirements for the provision and design of car parking spaces for new developments. Table 1 of Section 3.2.3 sets out the car parking required for the new or expanded use. Table 3 provides a statutory parking assessment of the proposed development.

Table 3: Statutory car parking requirement

Use	Rate	Measure	Requirement
Contractor's depot	1 space per 90 m ² of GFA or 1 space per employee (whichever is greater)	10 staff	10 spaces
	1 space per 150 m ² of GFA of open yard area	3,200 m ²	22 spaces
	1 space per transport vehicle present at the time of peak vehicle accumulation on site		1 space
Storage Premises	1 space per 90 m ² of GFA or 1 space per employee (whichever is greater)	283 m ²	3 spaces
	1 space per 150 m ² of GFA of open yard area	3,040 m ²	20 spaces
	1 space per transport vehicle present at the time of peak vehicle accumulation on site		n/a ¹

Use	Rate	Measure	Requirement
Diesel refuelling station (service station)	6 spaces per work bay 5 spaces per 100 m ² GFA of convenience store If Restaurant present, then greater of 15 spaces per 100 m ² of GFA, or 1 space per 3 seats.	No work bays, convenience store or restaurant on site	0 spaces
Total			56 spaces

1. It has been assumed that 1 heavy vehicle will be stored on-site overnight and may coincide with peak vehicle accumulation on-site. (to be confirmed with Client)

Table 3 indicates that the proposal has a DCP car parking requirement of 55 spaces.

The parking demand for the contractor's depot will be determined using a first principal assessment with statutory car parking demand being an overestimate based on the expected operation of both uses. In regard to the storage premises, the statutory requirement for the use is excessive, compared to existing self-storage facilities of similar size detailed in the study titled '*Self Storage Facility Traffic and Parking Study (2009)*', undertaken by Aurecon on behalf of the Self-Storage Association Australia. As a result, the estimated car parking demand for this use was based on the study.

4.1.1 Contractor's depot parking demand

The contractor's depot has a statutory parking requirement of 33 spaces consisting of 10 spaces for staff, 22 spaces associated with the open yard area for stockpiling of construction material and one space per transport vehicle present at the time of peak vehicle accumulation on site. Based on the operation of the development, only 8 of the staff members would require car parking spaces. The remaining 2 staff members would drive to/from work using workshop vehicles which would be parked inside the workshop for access to tools.

Furthermore, the open yard area is not expected to generate additional parking demand. The open yard area will only generate infrequent heavy vehicles trips for the delivery and distribution of construction material. Heavy vehicles arriving on-site will have sufficient space to store before loading / unloading. As a result, the contractor's depot would have a car parking demand of 8 spaces associated with staff, and an additional parking space associated with the heavy vehicle stored on-site, during peak vehicle accumulation, equalling 9 spaces in total.

Heavy vehicles will not be stored on-site regularly, but only in cases where maintenance is required. During this period, any heavy vehicle requiring maintenance will be stored in the area south of car park and proposed workshop (Pad 1).

4.1.2 Self-storage premises

The estimated car parking demand has been based on the ‘*Self Storage Facility Traffic and Parking Study (2009)*’ that was undertaken by Aurecon on behalf of the Self-Storage Association.

The study identified that for facilities between 3,000 and 6,000 m² gross floor area, the maximum estimated car parking demand is as follows:

- Staff parking requirement: 2 spaces
- Office visitor parking: 2 spaces
- Storage requirement: 5–6 spaces

The proposed development will not have an on-site staffing component and will not include an office, hence the entirety of the car parking demand will be associated with customers visiting the storage units. On this basis, the estimated parking demand is up to 6 car parking spaces.

4.1.3 Summary

Based on the sections above, the proposal is anticipated to generate a peak car parking demand of 33 car parking spaces, including:

- a statutory car parking requirement of 6 spaces for the storage premises
- an estimated car parking requirement of 9 spaces for the contractor’s depot
- a statutory car parking requirement of 0 spaces for the diesel refuelling station.

4.2 Adequacy of parking provision

The **storage premises** has an estimated parking demand of up to 6 spaces. The proposed development does not provide any formalised car parking bays, however the dimensions of the internal road layout permit vehicles to park adjacent to their storage bays and still maintain traffic flow around the site. On this basis, there is sufficient space on site for drivers to park adjacent to their units whilst loading / unloading.

The **contractor’s depot** has an estimated parking demand of 8 car parking spaces and one truck space. As per the development plan, the contractor’s depot has 12 spaces provided on-site satisfying the estimated parking demand.

The **diesel refuelling station** as per Table 3 does not require car parking in accordance with the statutory requirement for a service station outlined in the council’s DCP.

4.3 Adequacy of design

4.3.1 Car park design

The proposed car parking spaces have been reviewed against the design requirements outlined in AS/NZS 2980.1 Parking Facilities – Part 1: Off-street car parking. The car parking area for staff (generally, all-day parking) should be designed in accordance with the User Class 1 for 90-degree parking spaces.

The development plans provided show the dimensions of the parking spaces are accordance with AS2890.1, with the exception of the access aisle within the contractor's depot car park (refer to Figure 8). The width of the access aisle should be increased to 6.2 m in accordance with AS2890.1 for User Class 1.

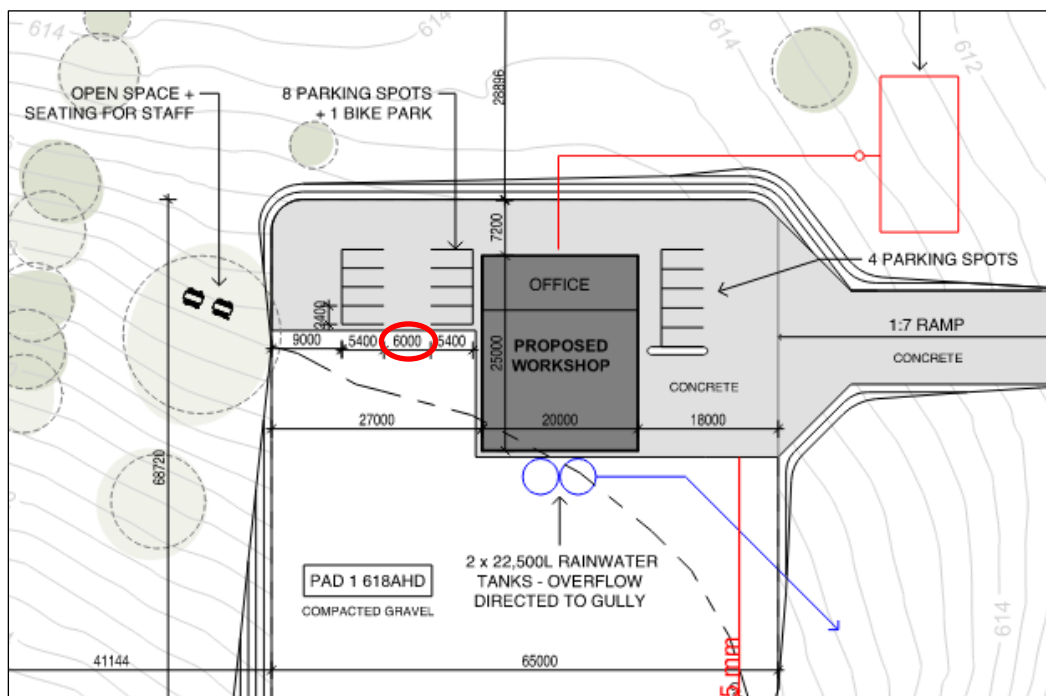


Figure 8: Contractor's depot car park with access aisle of 6 m

The accessible parking space has mostly been designed in accordance with AS2890.6 with an adjacent shared space and appropriate line marking as represented in Figure 9. The accessible parking space does not include a bollard within the adjacent shared space, which should be located within an area commencing at 750 mm and extending to 1,750 mm from the edge of the parking aisle.

Recommendation 1: the width of the access aisle within the car park of the contractor's depot should be increased to 6.2 m in accordance with AS2890.1 for User Class 1.

4.3.2 Ramp design

Recommendation 3: ensure ramps within the contractor's depot are designed in accordance with AS2890.2 for the use of semi-trailers.

Swept path analysis is attached in Appendix 2 and includes the following key movements:

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5 Traffic assessment of the proposed development

5.1 Traffic generation

Traffic generation for new developments is typically estimated using the traffic generation rates provided in the RTA Guide to Transport impact assessment (2024) or a first principles assessment if no other rate is provided.

5.1.1 Contractor's depot

The RTA Guide does not provide trip generation rates for a contractor's depot. As a result, the anticipated trip generation has been developed based on a first-principles assessment of the site utilising the expected staff members provided by the client.

We understand that the proposed contractor's depot would have maximum of 10 staff on-site. Staff are likely to drive to the site on their own and would generate a total of 20 light vehicle movements per day (10 trips to the site at the beginning of their shift and 10 trips from the site at the end of their shift).

The truck movements to/from site will be infrequent and will not coincide with the arrival and departure of staff during the peak hour.

5.1.2 Storage premises

A self-storage premises is not specified in the RTA Guide, on this basis, the traffic generation assessment has relied on research undertaken by Aurecon on behalf of the Self-Storage Association of Australia.

The 'Self Storage Facility Traffic and Parking Study (2009)' was undertaken by Aurecon to determine the typical parking and traffic generation rates for self-storage units around Australia using a series of parking and traffic studies.

The study identified that for facilities between 3,000 - 6,000 m², the total estimated traffic generation is:

- AM peak hour: 10 - 20 trips
- PM peak hour: 10 - 20 trips.

It should be noted that the trip numbers above include both staff and customers of the self-storage facility.

Given the size of this self-storage facility is within the lower range (3,223 m²) and will not be staffed, it is considered appropriate to adopt the lower range of the trips identified above, resulting in the following traffic generation for the proposed development:

- AM peak hour: 10 trips
- PM peak hour: 10 trips.

The traffic generation splits for the storage units are expected to generally be 50% in and 50% out during each peak hour.

5.1.3 Diesel refuelling station

The diesel refuelling station, will be used for the retail sale of fuel and as such is best classified as a 'service station' in the RTA guide. However, the rates provided for service stations are likely an overestimation, with the diesel refuelling station catering only to heavy commercial vehicles rather than the broader customer base of service stations, which include light vehicles and convenience shoppers. As a result, the anticipated trip generation has been developed based on a first principal assessment.

It is estimated that refuelling a truck takes approximately 10 minutes. With 2 fuel pumps operating, the diesel tank could service up to 12 trucks per hour (6 trucks per pump), assuming the pumps are in constant use and there are no delays between trucks arriving for refuelling. This is estimated to generate 24 trips in the peak hour (12 trips into the site and 12 trips out of the site after refuelling).

5.1.4 Neighbouring contractor's depot

The neighbouring contractor's depot was assumed to generate similar traffic volumes to the proposed contractor's depot (20 staff movements per day).

5.1.5 Traffic generation summary

The traffic generated by the proposed development is summarised in Table 4.

Table 4: Peak hour traffic volumes for the proposed development

Development component & scale	Trip generation rate		Trip generation (no. of vehicles)	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Proposed development				
Contractor’s depot	1 (arrival) trip per staff	1 (departure) trip per staff	10 vph	10 vph
Storage premises	10 trips (5 arrival and departure)		10 vph	10 vph
Diesel refuelling station	12 trips (6 arrivals and departures) per fuel pump		24 vph	24 vph
Sub total			44 vph	44 vph
Adjacent development				
Neighbouring contractor’s depot			10 vph	10 vph

Development component & scale	Trip generation rate		Trip generation (no. of vehicles)	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Total			54 vph	54 vph

5.2 Traffic distribution assumptions

Our traffic distribution assumptions are that:

- 90% to/from the east
- 10% to/from the west

5.3 Anticipated traffic volumes

It is assumed that the development will be fully constructed by 2025. Consequently, the existing traffic volumes along Jingellic Road were projected to 2025 adopting an annual compounded growth rate of 2.5 %. This rate was based on surveyed traffic volumes from the closest traffic counter with multiple years of data, site ID 95195 (Tumbarumba Road), sourced from the NSW Traffic Volume Viewer.

Figure 10 shows the anticipated overall peak hour traffic volumes including development traffic.

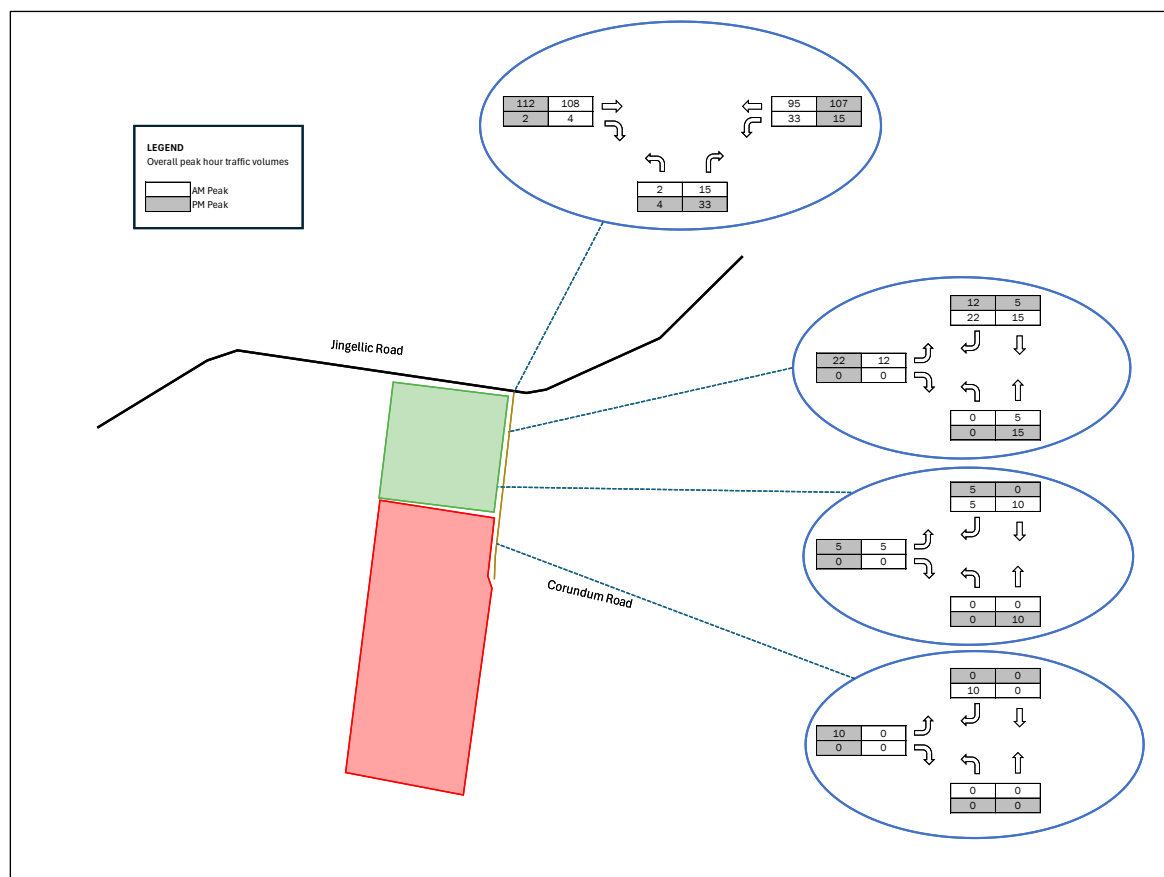


Figure 10: Anticipated overall peak hour traffic volumes

6 Access to the site

6.1 Site access – intersection SISD requirement

The visibility criterion normally applied to intersections is Safe Intersection Sight Distance (SISD) Figure 11 shows the SISD, which:

- is nominated in the Austroads Guide to Road Design, Part 4A (AGRD4) as the minimum distance that should be provided on a major road at any intersection (refer Section 3.2.2 in AGRD4A)
- provides sufficient distance for a driver of a vehicle on the major road:
 - to observe a vehicle from the minor access approach moving into a collision situation, e.g. in the worst case, stalling across the traffic lanes
 - to decelerate to a stop before reaching the collision point.

The minimum SISD criterion, specified in Table 3.2 of AGRD4A, requires clear visibility for a desirable minimum distance of 214 m, relating to the general reaction time RT of 2 seconds and a design speed of 90 km/h (posted speed limit + 10 km/h).

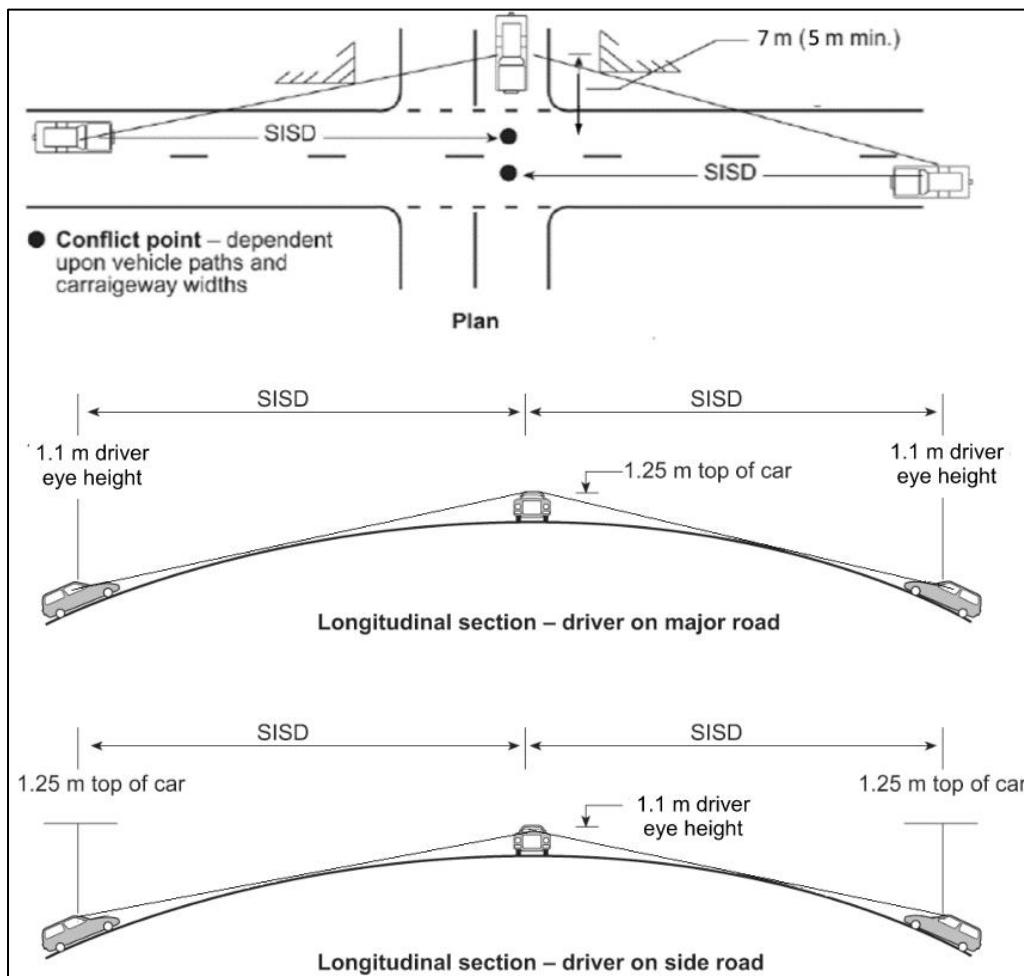


Figure 11: Safe Intersection Sight Distance (SISD) (Source: Figure 3.2 from AGRD4)

6.1.1 Impacts for this proposed development

The intersection of Corundum Road and Jingellic Road is subject to a design speed of 90 km/h, corresponding to an SISD of 214 m. There is a crest to the west of the intersection restricting sightlines to 290 m, however the available sight distance exceeds the SISD requirement for the intersection.

Figure 12 and Figure 13 demonstrate the available sight distance along Jingellic Road with the sightlines in both directions greater than 214 m.



Figure 12: Available sight distance to the east of Corundum Road along Jingellic Road



Figure 13: Available sight distance to the west of Corundum Road along Jingellic Road

Figure 14 represents the available sight distance on approach to Corundum Road from the west. The available sight distance is restricted to 290 m by a crest with a downgrade of 1.5%.



Figure 14: Crest (1.5% downgrade) restricting available sight distance of 290 m on approach to Corundum Road from the south

6.2 Site access – access driveway sight distance requirement

Section 3.2.4 in AS/NZS 2980.1 Parking Facilities – Part 1: Off-street car parking, sets out:

- entering sight distance (ESD) criteria for a driver exiting an access driveway to traffic on the frontage road
- sight distance to pedestrians.

Un-signalised access driveways shall be located so the intersection sight distance available to drivers leaving the driveway along the frontage road is at least that shown in Figure 3.2 of AS/NZS 2890.1 (reproduced in Figure 15).

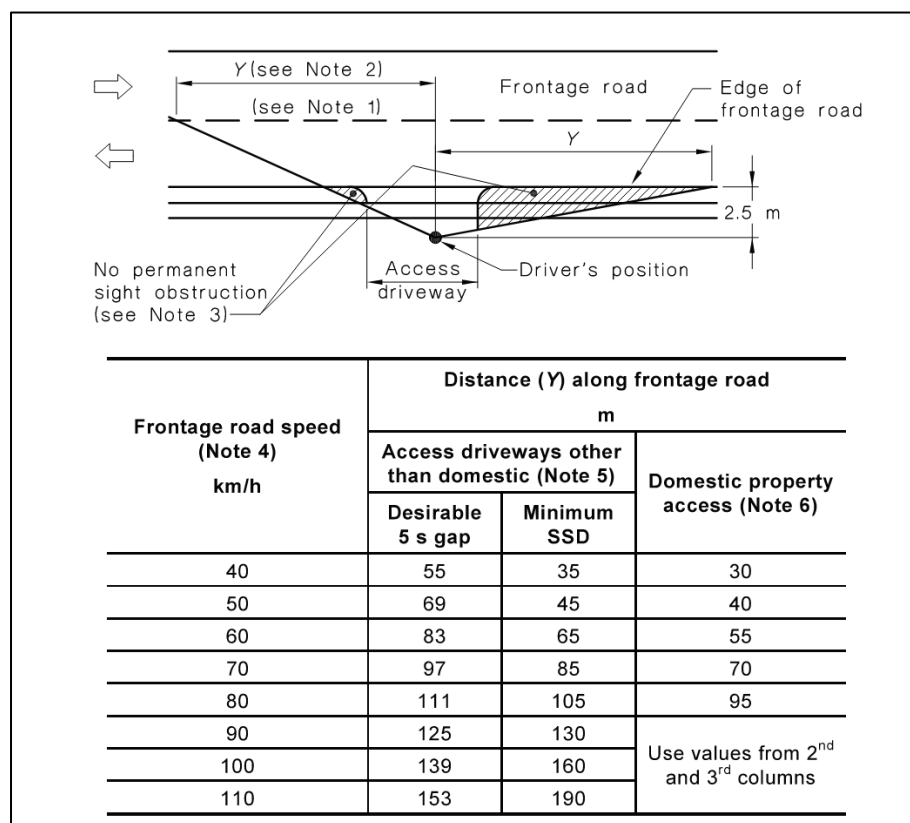


Figure 15: Sight distance requirements at driveways (Source: Figure 3.2 from AS/NZS 2890.1)

6.2.1 Impacts for this proposed development's existing southern driveway

The existing site access is provided to Corundum Road which is subject to a 100 km/h default rural speed limit.

The operational speed along Corundum Road would be within the range of 50 km/h, corresponding to a minimum sight distance requirement of 45 m. This is due to the short length of the road, (approx. 270 m) with the road terminating at its southern end, which inhibits vehicles from reaching high speeds.

Figure 16 and Figure 17 demonstrate the available sight distance at the existing southern driveway to the storage premises exceeds the required 45 m.



Figure 16: Visibility at existing southern driveway facing north



Figure 17: Visibility at the existing southern driveway facing south

6.2.2 Impacts for this proposed development's proposed northern driveway

The proposed northern driveway to be constructed to Corundum Road is expected to be subject to an operational speed limit of 50 km/h. The proposed location of the northern

driveway being 60 m south of Jingellic Road, vehicles turning off Jingellic Road would be traveling at even lower speeds.

Based on the available sight distance north of the existing driveway (Figure 16), there are no notable obstructions to sightlines within the vicinity of the proposed driveway and the driveway is capable of complying. It is however recommended that during the detailed design of the proposed northern driveway, sight distance is checked to comply with the ESD requirement of 45 m for an operational speed limit of 50 km/h as stipulated in AS/NZS 2890.1.

Recommendation 4: the driveway is capable of complying, however during the detailed design of the proposed northern driveway, sight distance is checked to comply with the ESD requirement of 45 m for an operational speed limit of 50 km/h as stipulated in AS/NZS 2890.

6.3 Turn provisions impact

The traffic turning from major roads into minor roads should not delay through traffic.

Generally, turn treatments from major roads into minor roads at sign-controlled intersections are provided for safe and efficient operation of the intersection.

Figure 18 shows the formulas used to determine the major road volume (Q_M).

To determine the turning treatments for the intersections, the results were then applied to Figure 3.26, Austroads Guide to Traffic Management Part 6 (AGTM6).

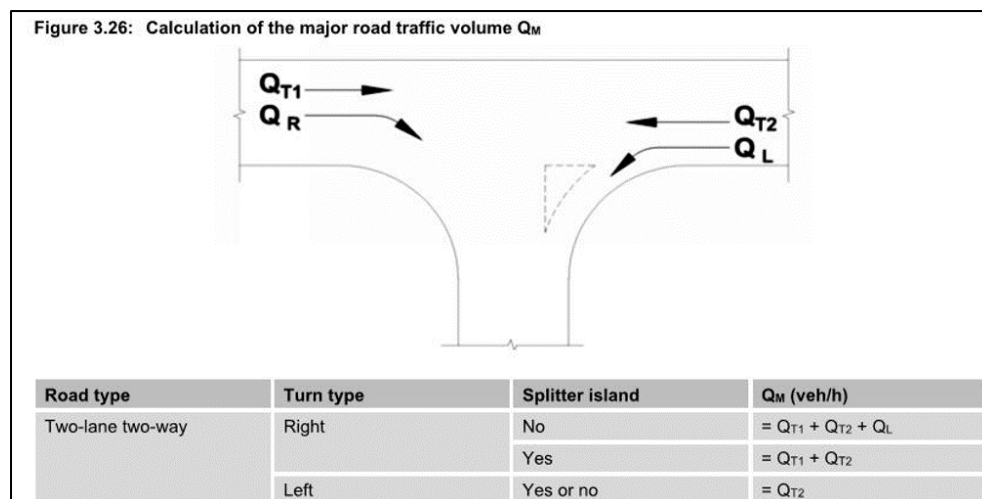


Figure 18: Formulas used to determine major road traffic (Source: Figure 3.26 from AGTM6)

6.3.1 Turn lane treatments

Traffic volumes are used to help determine appropriate turn lane treatments at access intersections to development sites.

Table 6 and Table 7 in Appendix 3 – Turn treatments summarises the various types of left and right turn treatments, as defined in the AGRD4.

6.3.2 Anticipated conditions for Jingellic Road / Corundum Road intersection

To determine anticipated conditions at the intersection, traffic volumes from Figure 10 were used to determine the warrants shown in Table 5 and were applied in Figure 19.

Table 5: Turn lane treatments on Jingellic Road at the Corundum Road intersection – anticipated conditions

Road	Peak period	Left turn Q_L (vph)	Right turn Q_R (vph)	Through Q_T (vph)	Q_M	
					Left turn	Right turn
Jingellic Road	AM	33	4	Q_{T1}	108	95
				Q_{T2}	95	236
	PM	15	2	Q_{T1}	112	107
				Q_{T2}	107	233

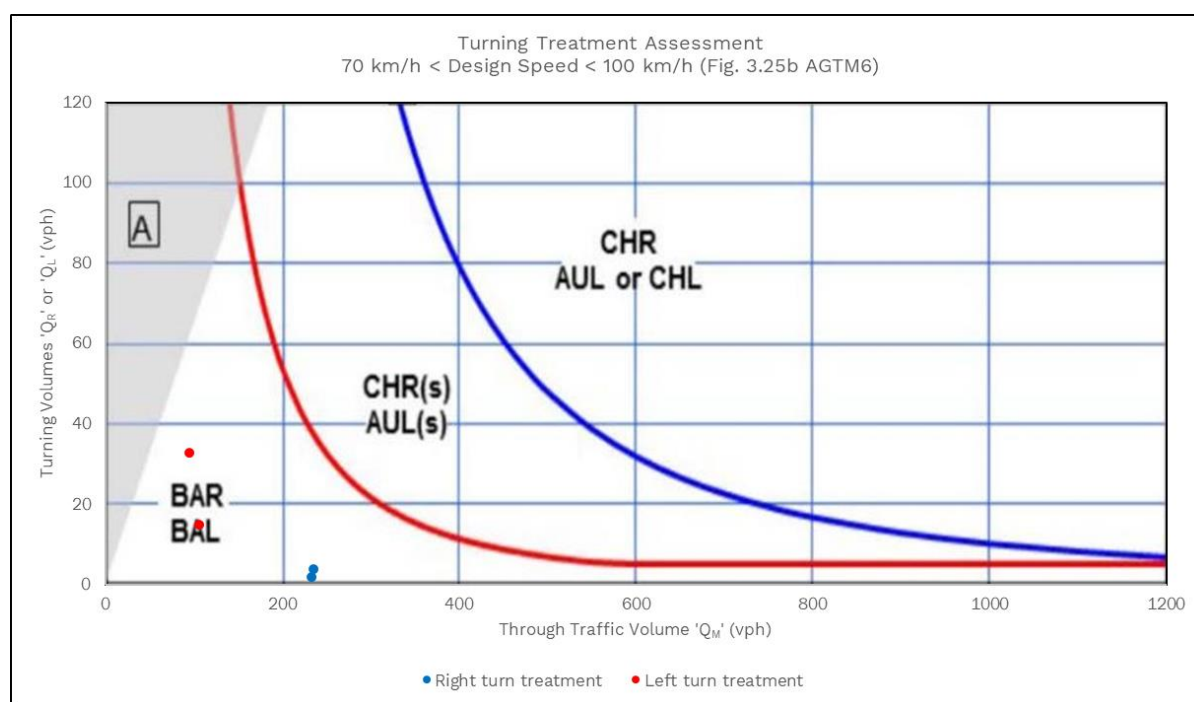


Figure 19: Graph used to determine the turn treatments on Jingellic Road at the Corundum Road intersection – anticipated conditions

Based on the data gathered and reported in this section, our key observations are that the:

- right turn from Jingellic Road to the Corundum Road is likely to meet warrants for a basic-right turn (BAR) treatment in the morning and afternoon peak periods
- left turn from Jingellic Road to the Corundum Road is likely to meet warrants for a basic-left turn (BAL) treatment in the morning and afternoon peak periods.

The intersection of Jingellic Road and Corundum Road already provides a BAL type treatment.

The warrant for the right turn treatment is near the baseline (4 vph in the AM peak and 2 vph in the PM peak hour). A right turn treatment is not considered to be required.

7 Conclusions and recommendations

We conclude there are no traffic engineering reasons that would prevent the development from proceeding, as outlined below:

- The provision of parking spaces within the proposed mixed-use industrial development satisfies the statutory parking requirement for the diesel refuelling station and the estimated parking demand for the contractor's depot.
- The estimated car parking demand for the storage premises can be satisfied by the available space adjacent to storage units for drivers to park whilst loading / unloading.
- Subject to the implementation of the recommendations in this report, the proposed car park access and layout complies with relevant standards.
- The SISD criterion of 214 m for a design speed of 90 km/h is satisfied at the intersection of Jingellic Road and Corundum Road.
- The minimum entering sight distance requirements of 45 m based on an operational speed limit of 50 km/h, as specified in AS/NZS 2890.1, is met at the subject site's existing southern driveway.
- Jingellic Road at its intersection with Corundum Road provides a BAL turn lane.
- A right turn lane is not required due to the low right turning volumes from Jingellic Road into Corundum Road.

However, this TIA has identified a number of recommendations that need to be addressed:

- **Recommendation 1:** the width of the access aisle within the car park of the contractor's depot should be increased to 6.2 m in accordance with AS2890.1 for User class 1.
- **Recommendation 2:** provide a bollard within the shared space for the accessible parking space in accordance with AS2890.6.
- **Recommendation 3:** ensure ramps within the contractor's depot are designed in accordance with AS2890.2 for the use of semi-trailers.
- **Recommendation 4:** the driveway is capable of complying, however during the detailed design of the proposed northern driveway, sight distance is checked to comply with the ESD requirement of 45 m for an operational speed limit of 50 km/h as stipulated in AS/NZS 2890.

Appendix 1 – Development plan

INDUSTRIAL DEVELOPMENT

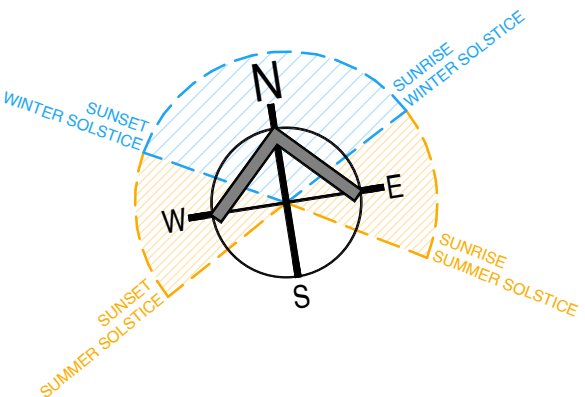
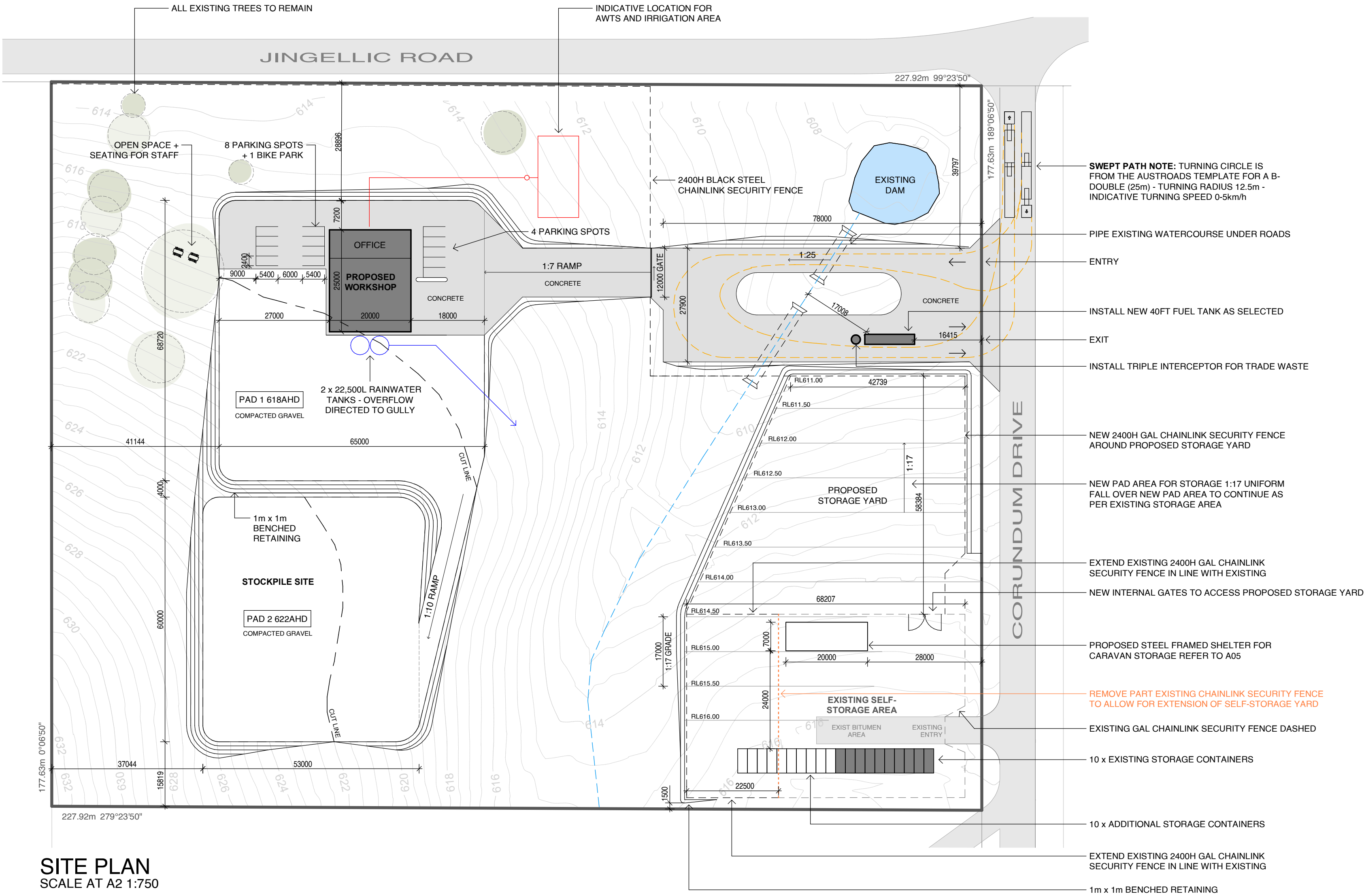
3966 JINGELIC RD, TUMBARUMBA NSW 2653

LOT A DP 338630
LOT SIZE - ≈40500m²
LGA: SVC

DESIGNED FOR:
DAVEY GRINTER CIVIL CONSTRUCTIONS

DRAWING SCHEDULE:	
NO.	TITLE
A01	SITE PLAN
A02	FLOOR PLANS
A03	ELEVATIONS + PERSPECTIVES
A04	SECTION + DETAILS
A05	CARAVAN STORAGE SHED

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4/07/2024 9:28:28 AM



SITE PLAN
SCALE AT A2 1:750

INDUSTRIAL DEVELOPMENT
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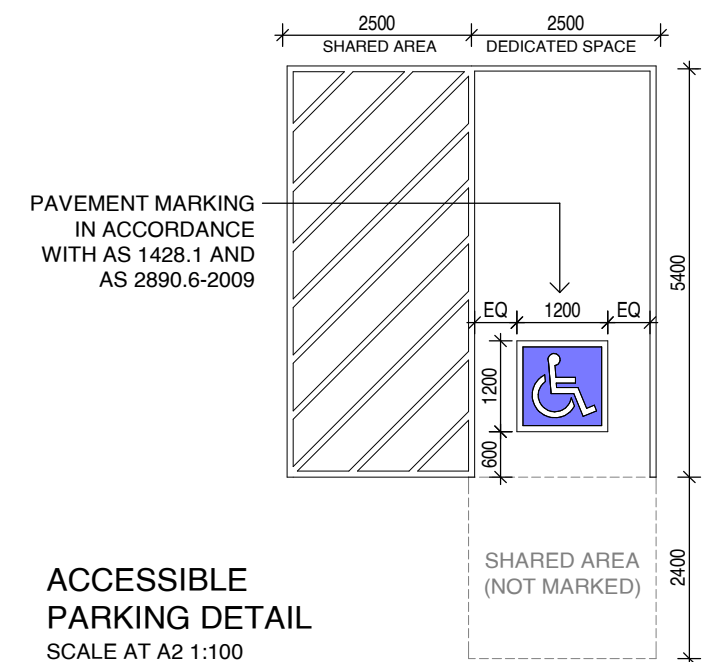
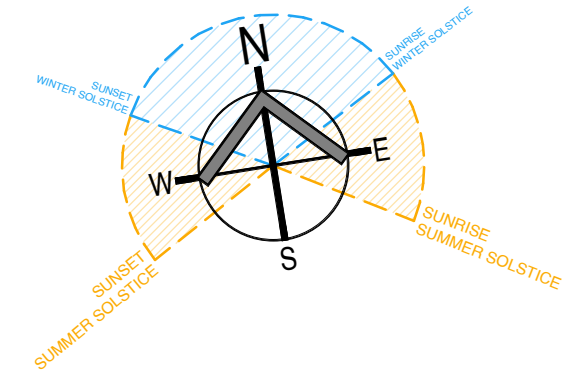
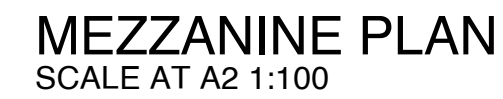
CLIENT DG CIVIL CONSTRUCTIONS

ADDRESS 3966 JINGELIC RD, TUMBARUMBA

SITE PLAN

PROJECT ID 42FED23 SCALE AS SHOWN

DRAWING No. A01 REVISION No. A



PROJECT AREAS	
 CARPET	
 TILE	
 TIMBER	
 CONCRETE	
OVERALL ROOFED AREA -	≈495m²
WORKSHOP AREA -	360m ²
GROUND FLOOR OFFICES + FACILITIES -	135m ²
FIRST FLOOR OFFICES + FACILITIES -	72m ²
MEZZANINE STORAGE -	40m ²
TOTAL -	607m²

INDUSTRIAL DEVELOPMENT

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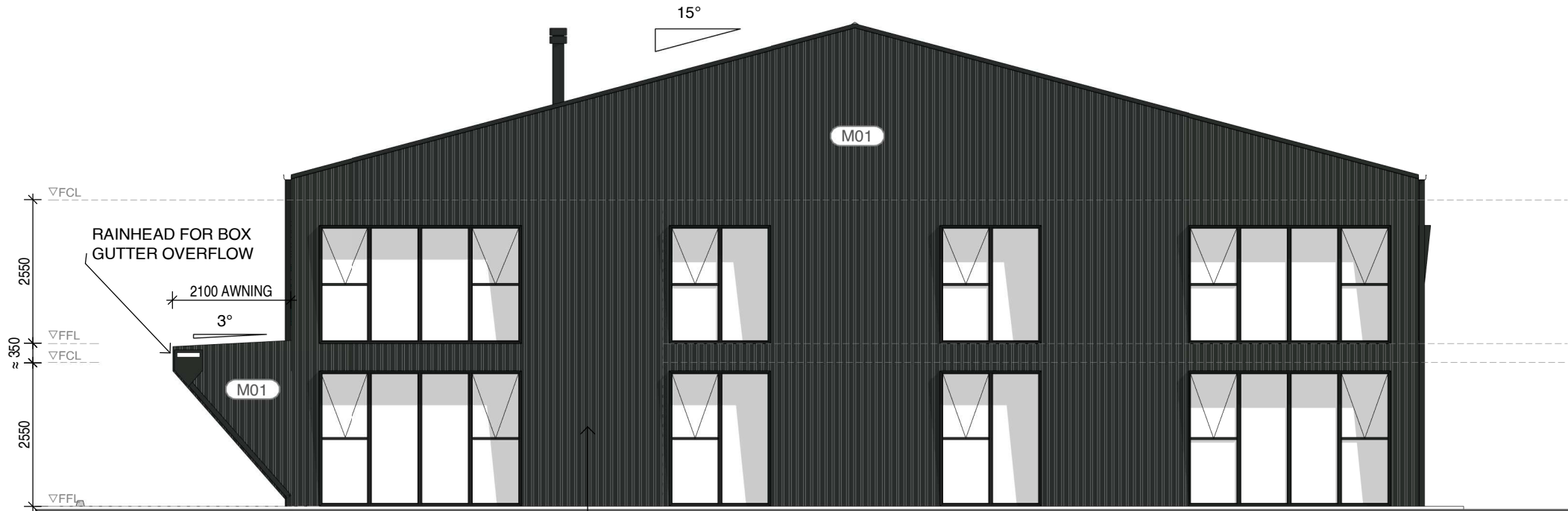
CLIENT DG CIVIL CONSTRUCTIONS

ADDRESS 3966 JINGELLIC RD, TUMBARUMBA

FLOOR PLAN

PROJECT ID
42FED23

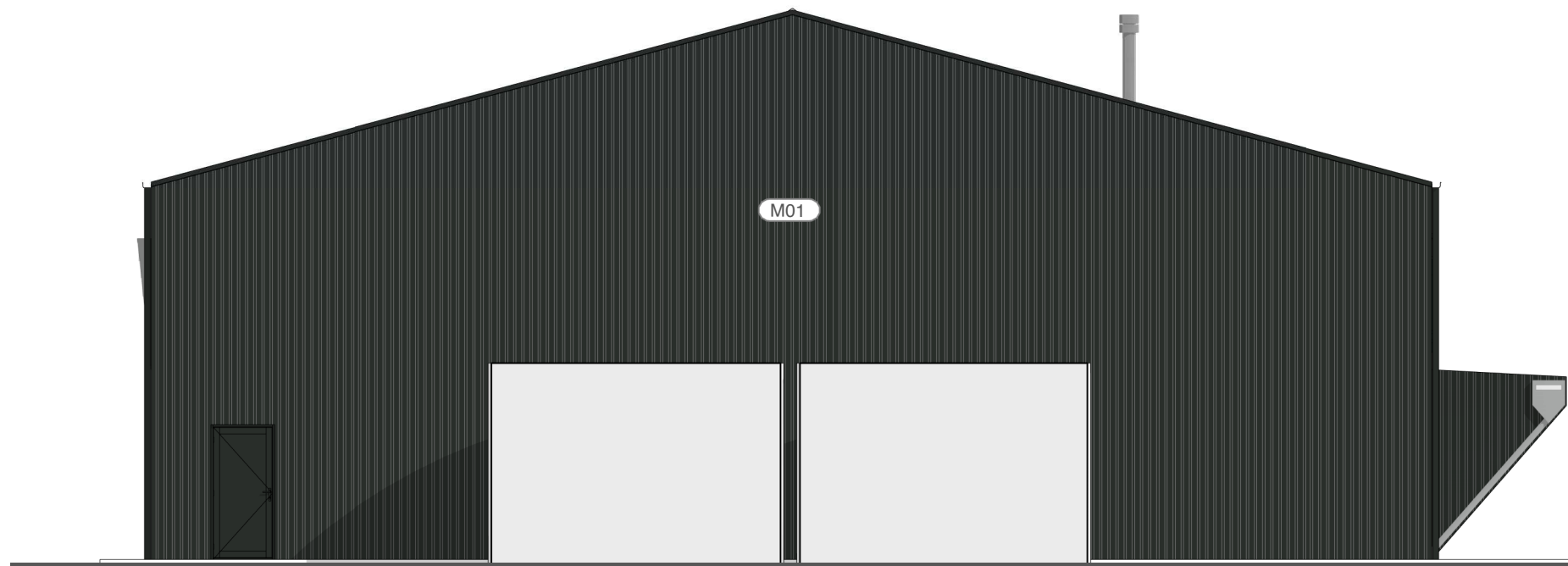
DRAWING No.	REVISION No.
A02	A



NORTH ELEVATION
SCALE AT A2 1:100



EAST ELEVATION
SCALE AT A2 1:100



SOUTH ELEVATION
SCALE AT A2 1:100



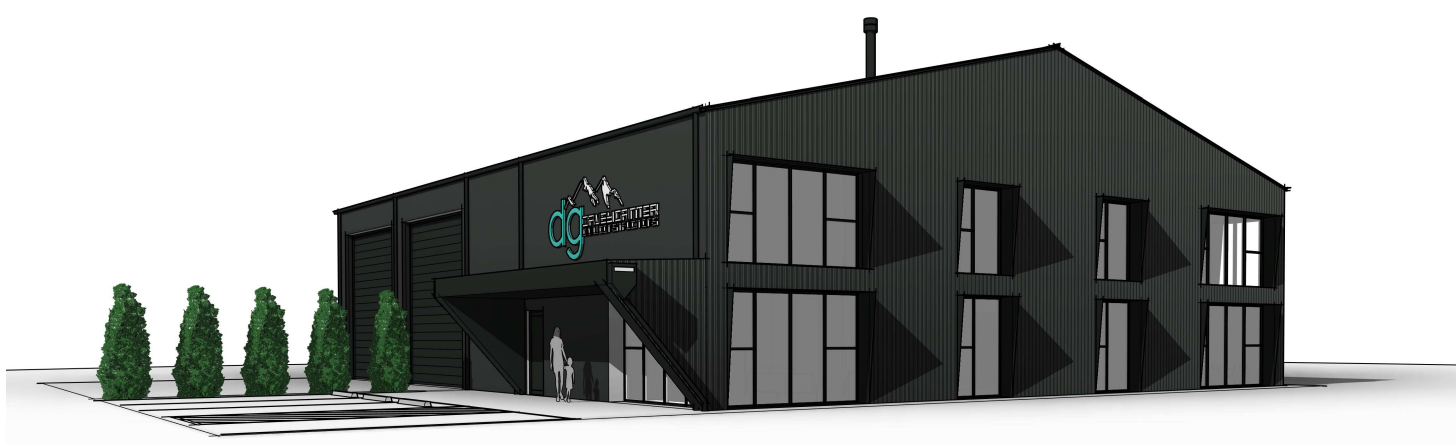
WEST ELEVATION
SCALE AT A2 1:100



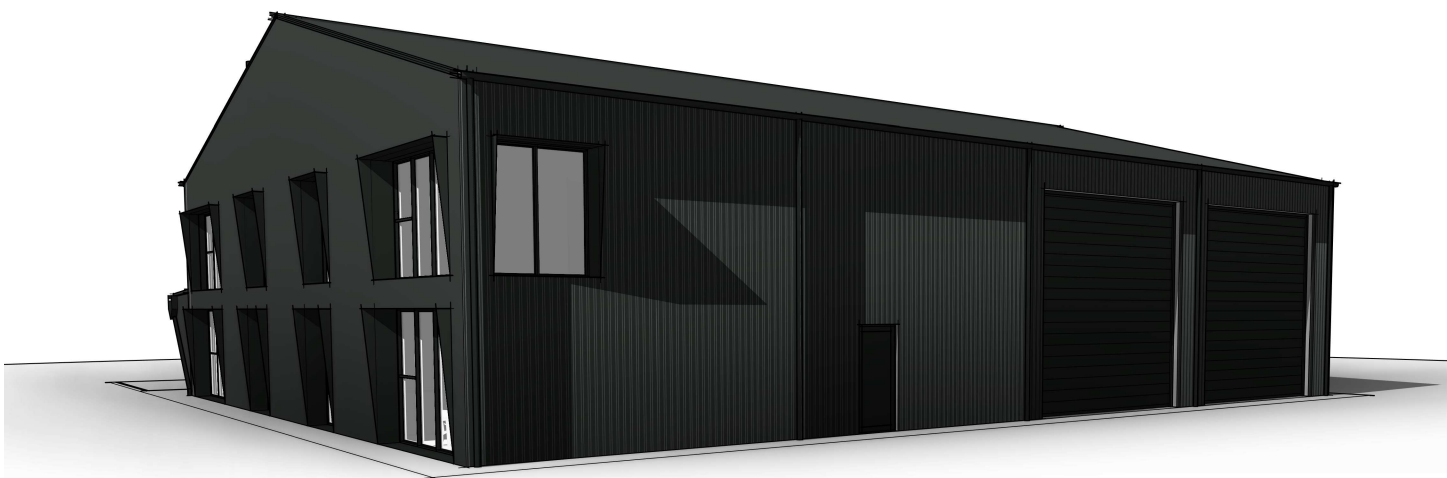
NORTH-EAST PERSPECTIVE



NORTH PERSPECTIVE



NORTH-EAST PERSPECTIVE



NORTH-WEST PERSPECTIVE

MATERIALS + FINISHES



TRIMDEK PROFILED
METAL SHEETING OR
EQUIV IN COLORBOND
"MONUMENT"

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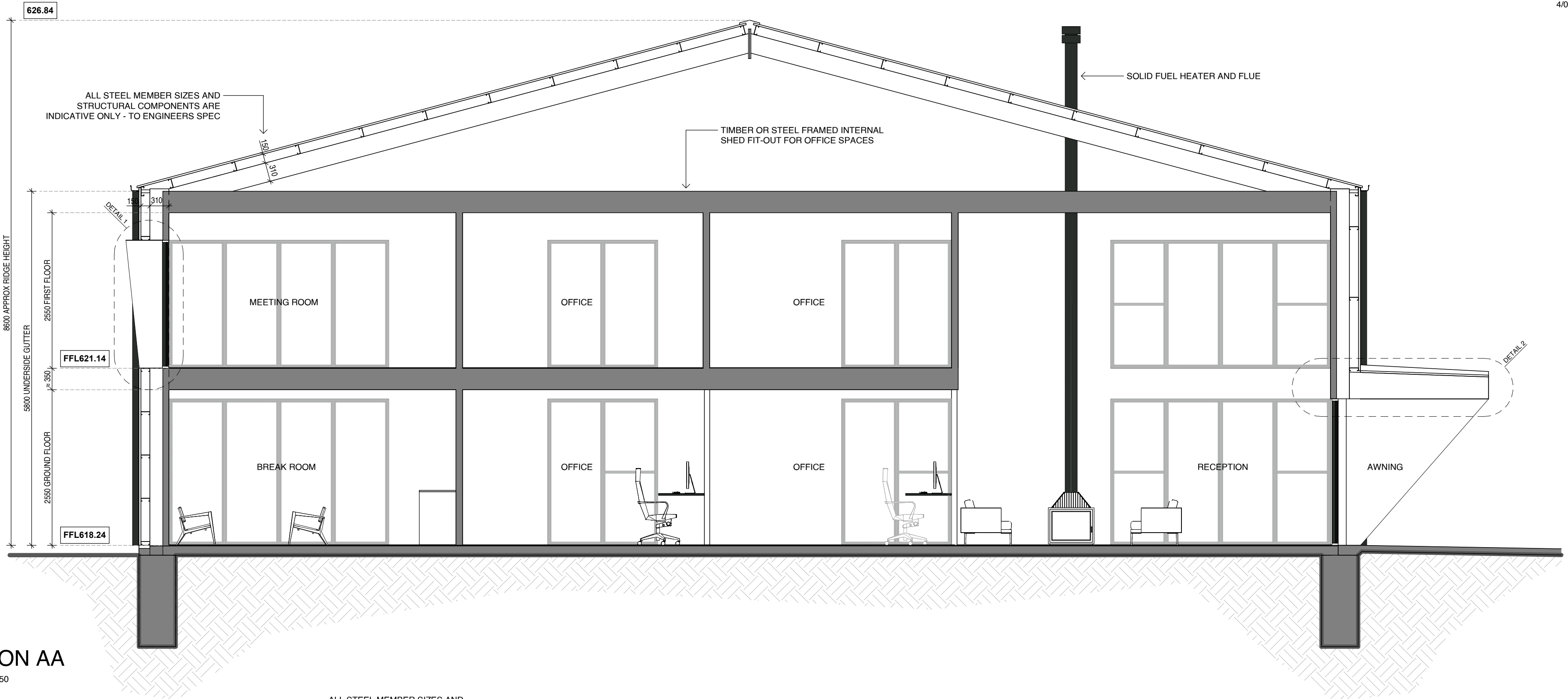
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ADDRESS 3966 JINGELIC RD, TUMBARUMBA

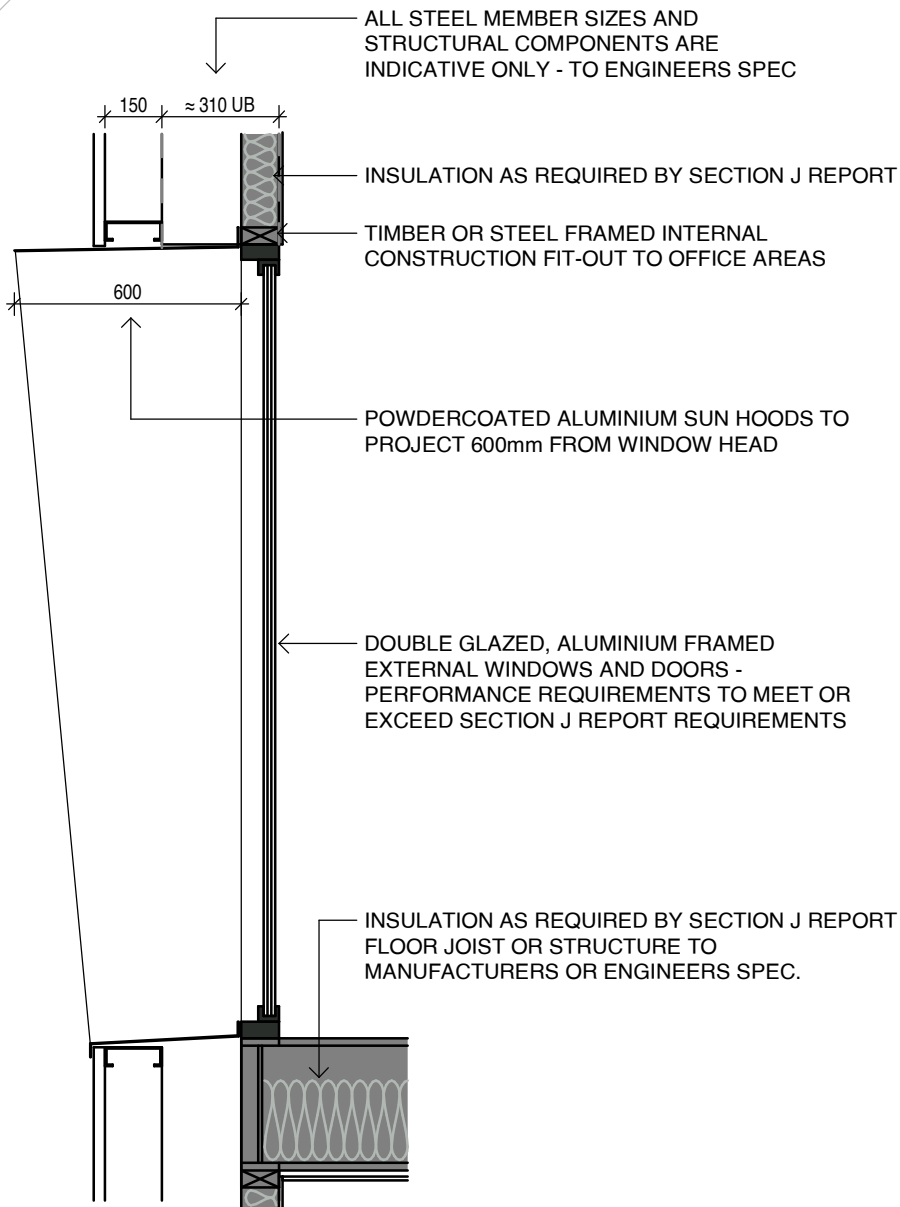
ELEVATIONS + PERSPECTIVES

PROJECT ID 42FED23 SCALE AS SHOWN

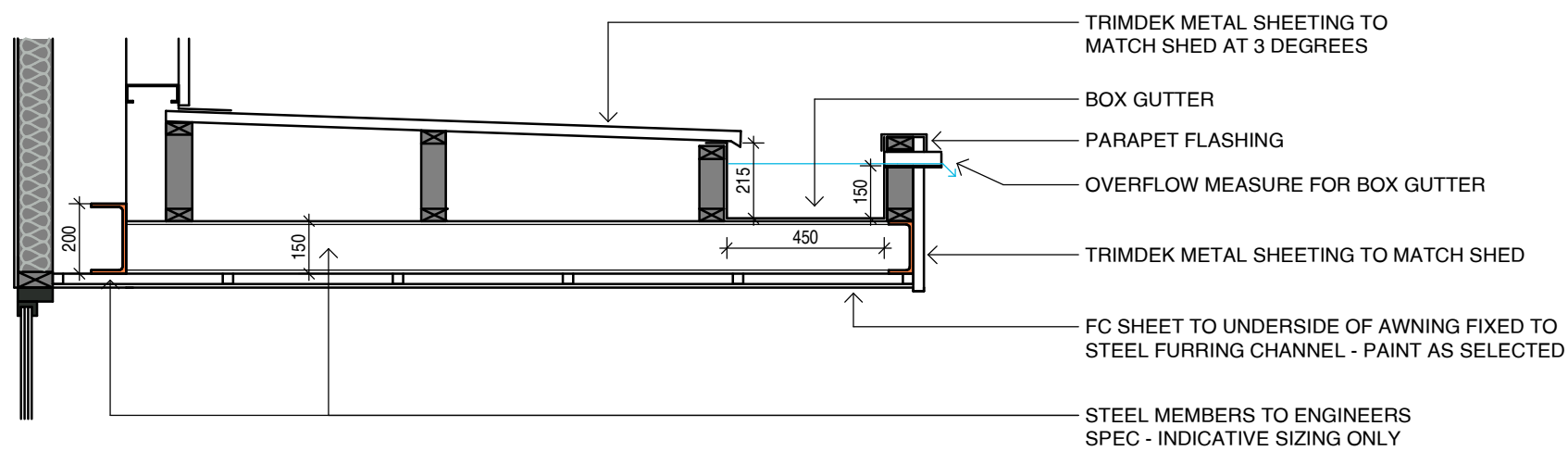
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DETAIL 1
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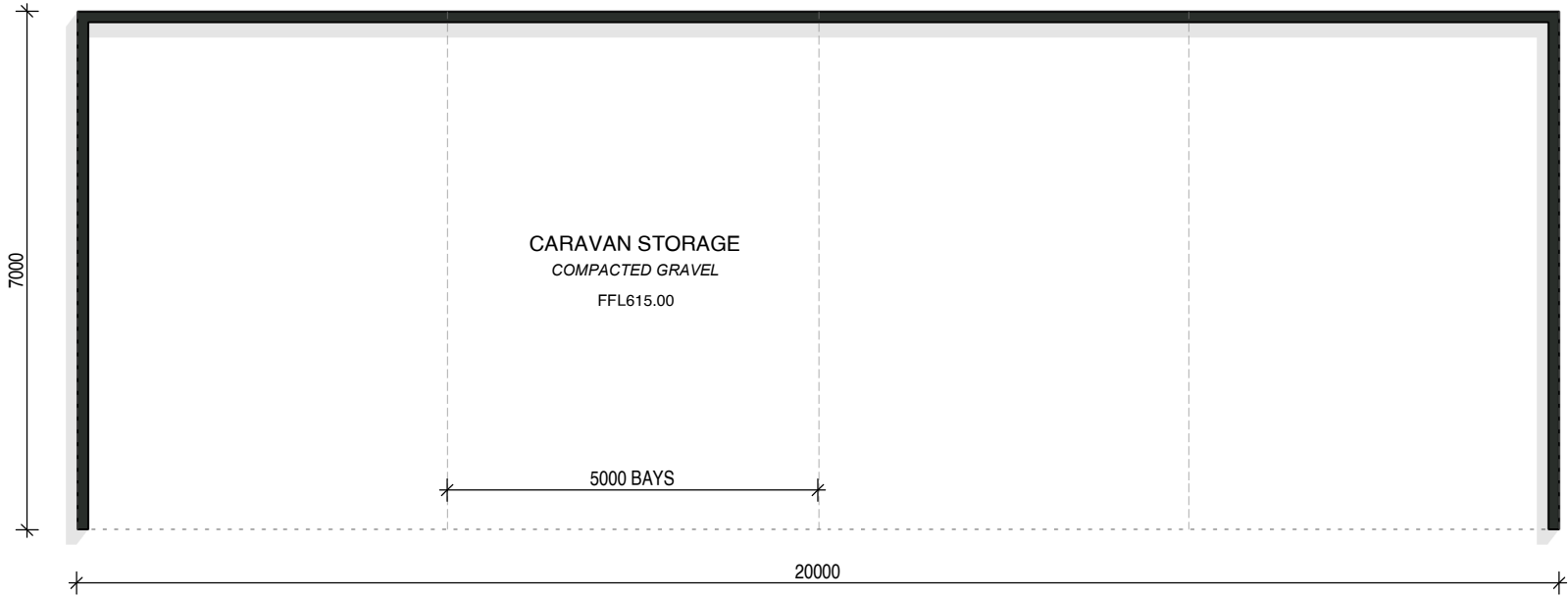
DETAIL 2
SCALE AT A2 1:20

INDUSTRIAL DEVELOPMENT
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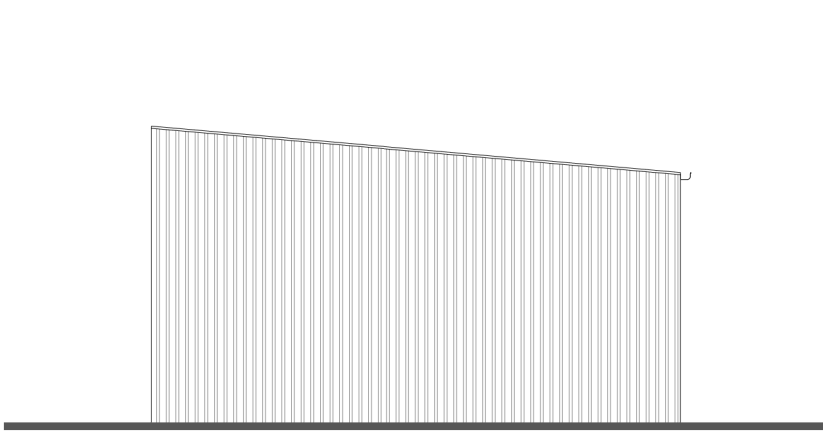
Ph: 0499 783 056 ✉ we.are@fineeyedesigns.com.au
CLIENT DG CIVIL CONSTRUCTIONS
ADDRESS 3966 JINGELLIC RD, TUMBARUMBA

SECTION + DETAILS

PROJECT ID 42FED23 SCALE AS SHOWN
DRAWING No. A04 REVISION No. A



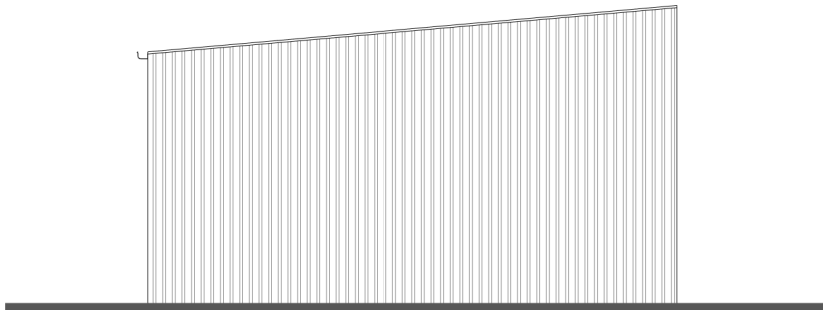
FLOOR PLAN
SCALE AT A2 1:100



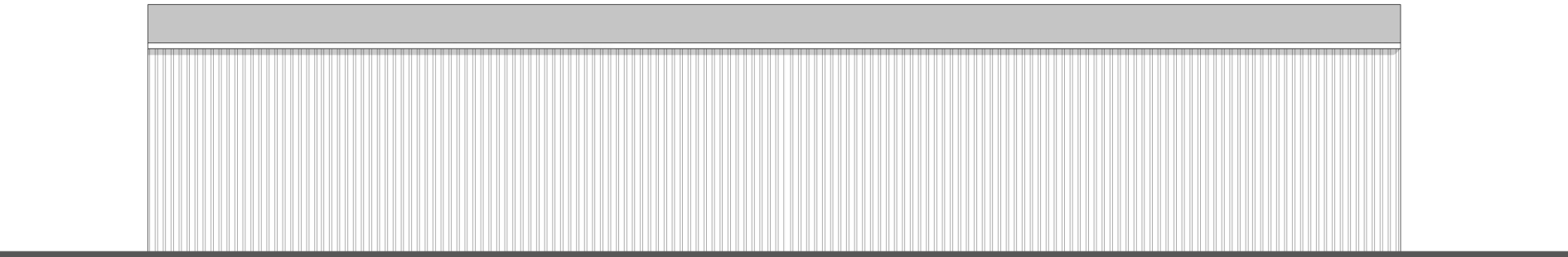
NORTH ELEVATION
SCALE AT A2 1:100



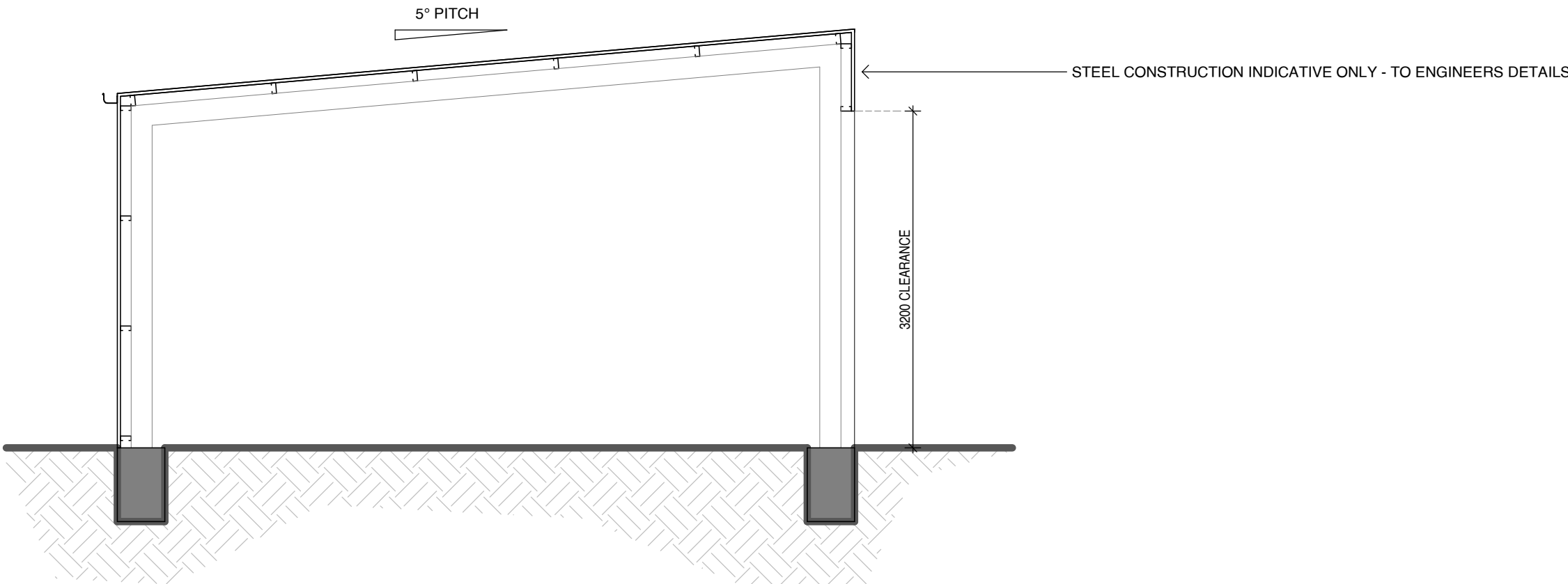
EAST ELEVATION
SCALE AT A2 1:100



SOUTH ELEVATION
SCALE AT A2 1:100



WEST ELEVATION
SCALE AT A2 1:100



SECTION
SCALE AT A2 1:50

INDUSTRIAL DEVELOPMENT
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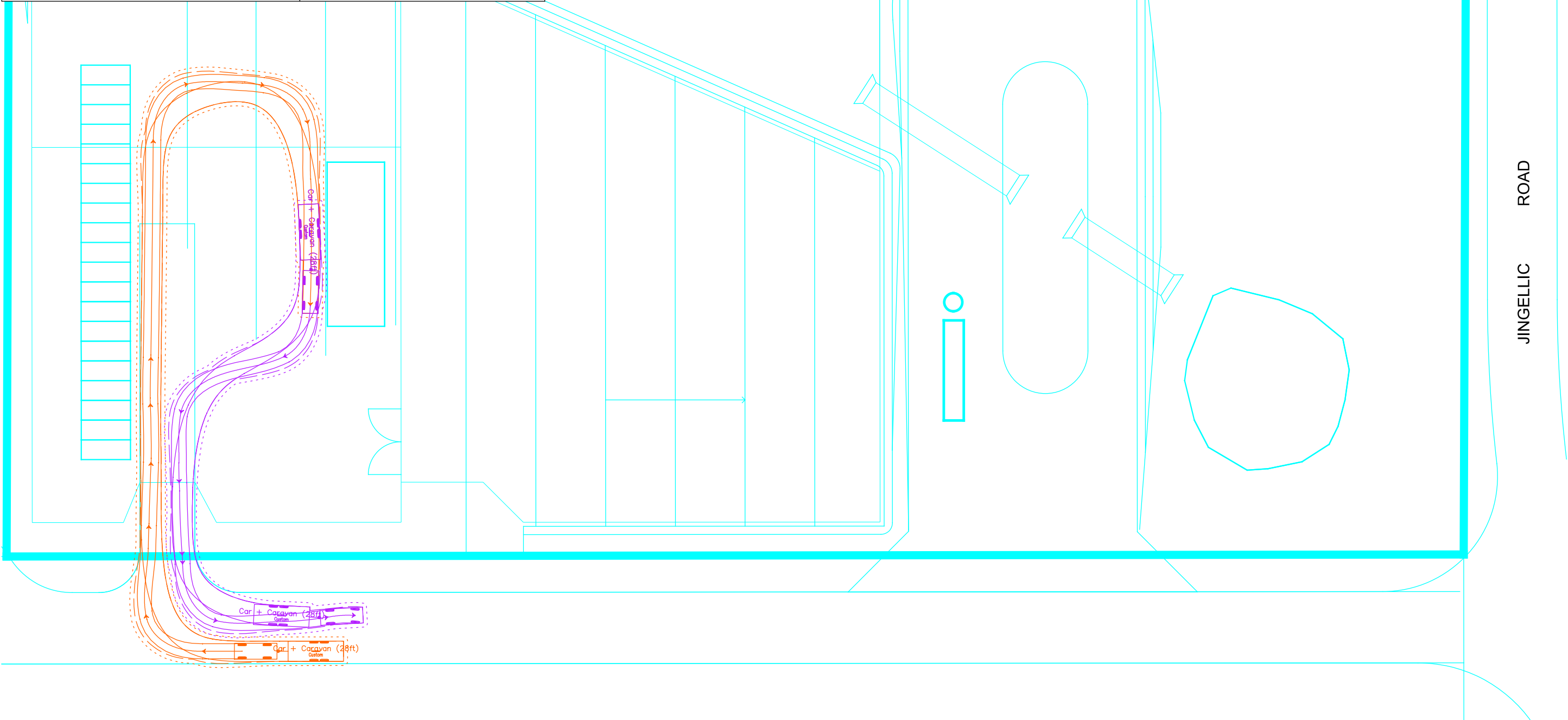
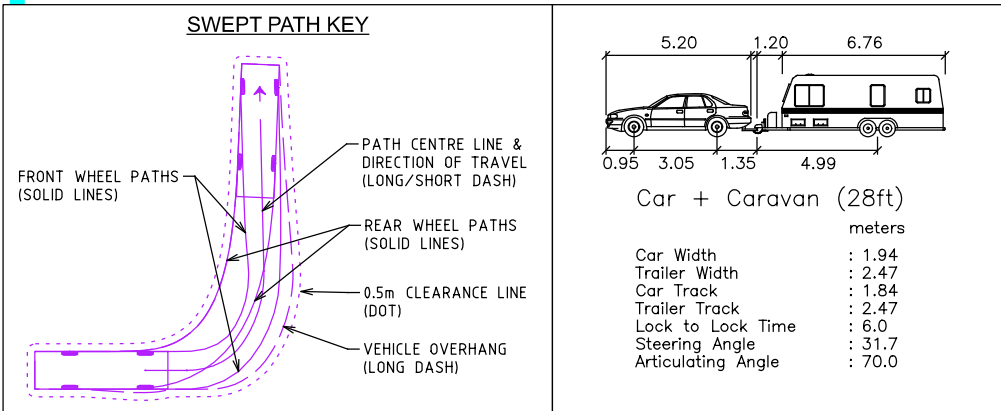
ADDRESS 3966 JINGELLIC RD, TUMBARUMBA

CARAVAN STORAGE SHED

PROJECT ID 42FED23	SCALE AS SHOWN	REVISION No. A
DRAWING No. A05		

Appendix 2 – Swept path assessment

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Drawing Record

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P1	IN	AA	07.11.24	PRELIMINARY ISSUE FOR COMMENT

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.

PRELIMINARY PLAN
FOR DISCUSSION PURPOSES ONLY
SUBJECT TO CHANGE WITHOUT NOTIFICATION
DATE OF ISSUE: 07/11/24

Notes & Legend

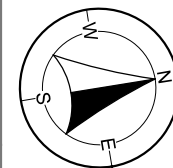
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— Design by Trafficworks
— Design by Others

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SCALE OF METRES
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3966 Jingellic Road, Tumbarumba

Snowy Valleys Council

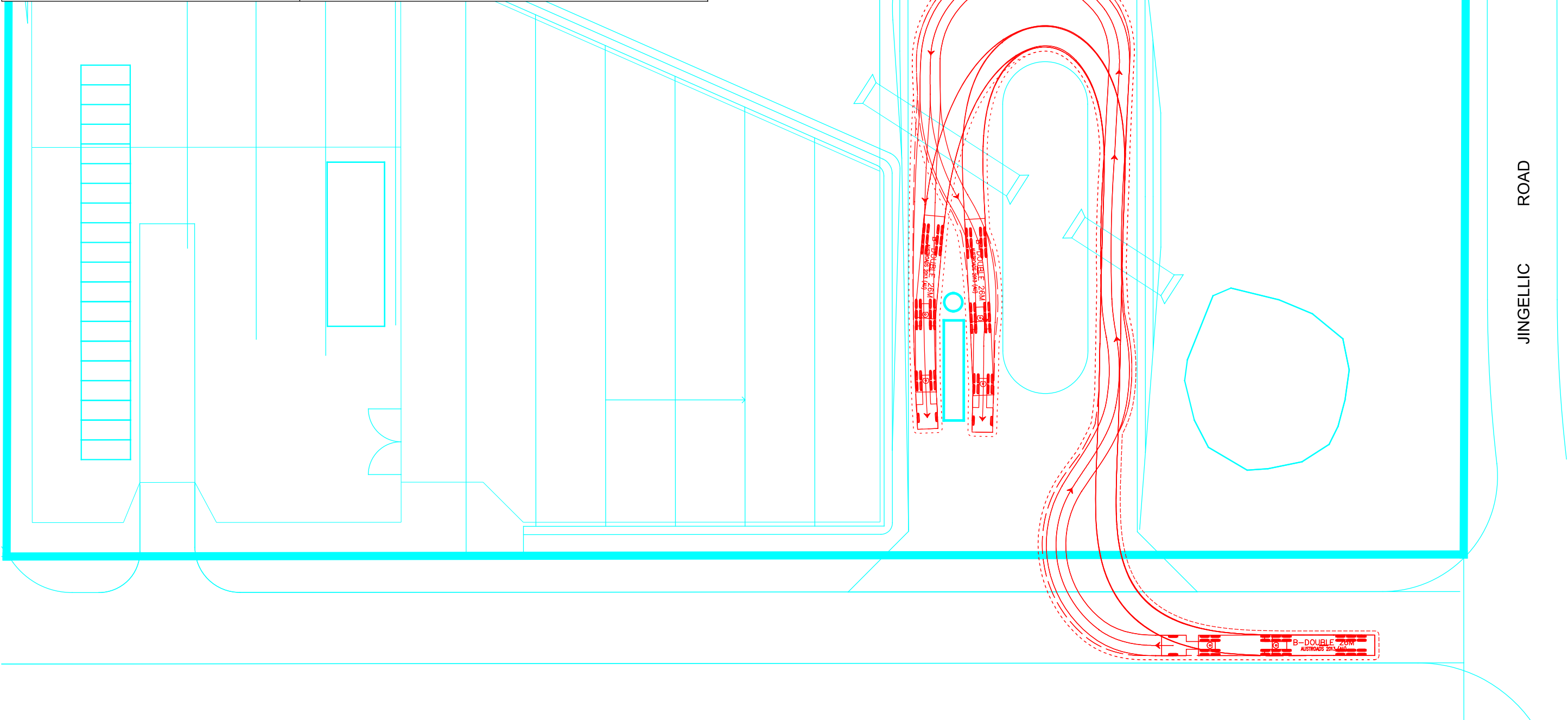
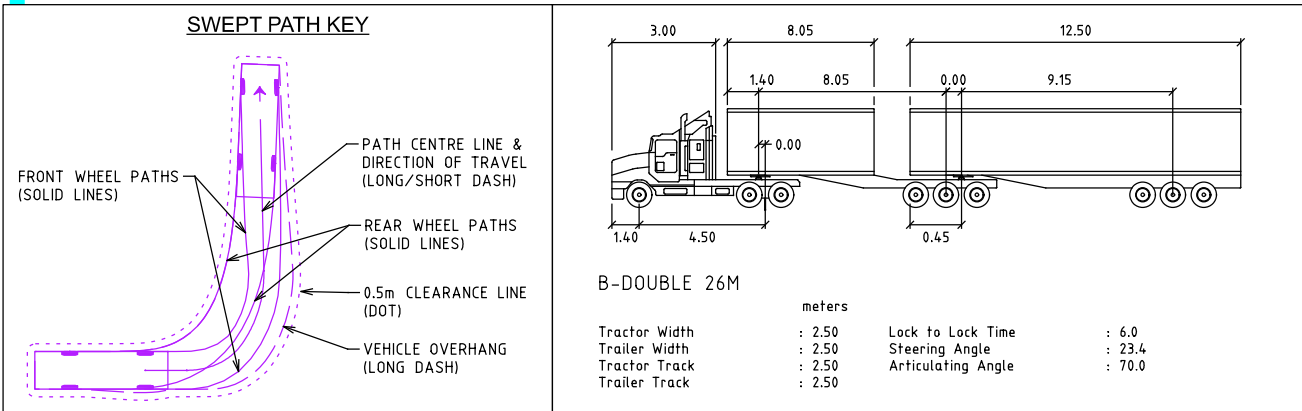
Swept Path Assessment

SHEET NO.
1

DRAWING NO.
240198-SKT-01

ISSUE
P1

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Drawing Record

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WARNING
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DATE OF ISSUE: 07/11/24

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SCALE OF METRES
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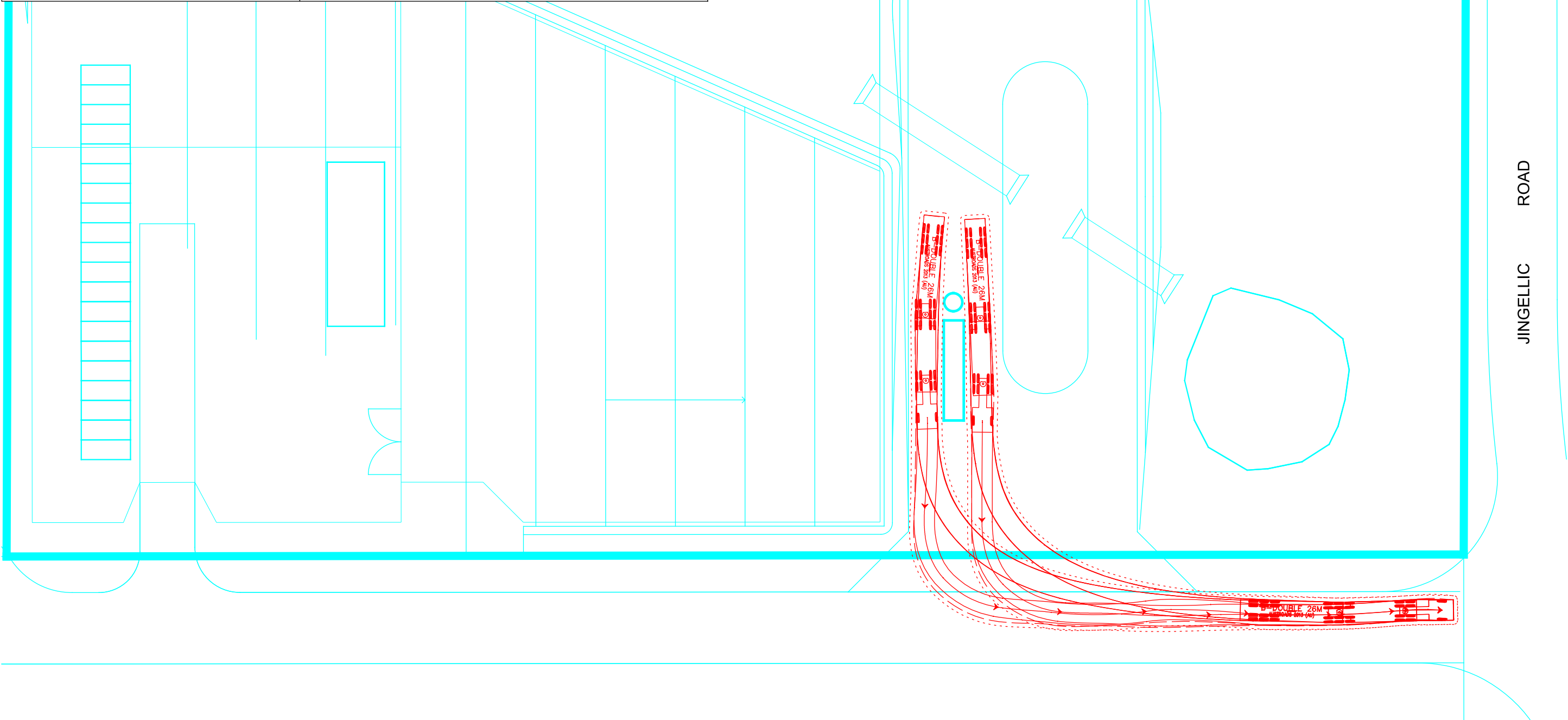
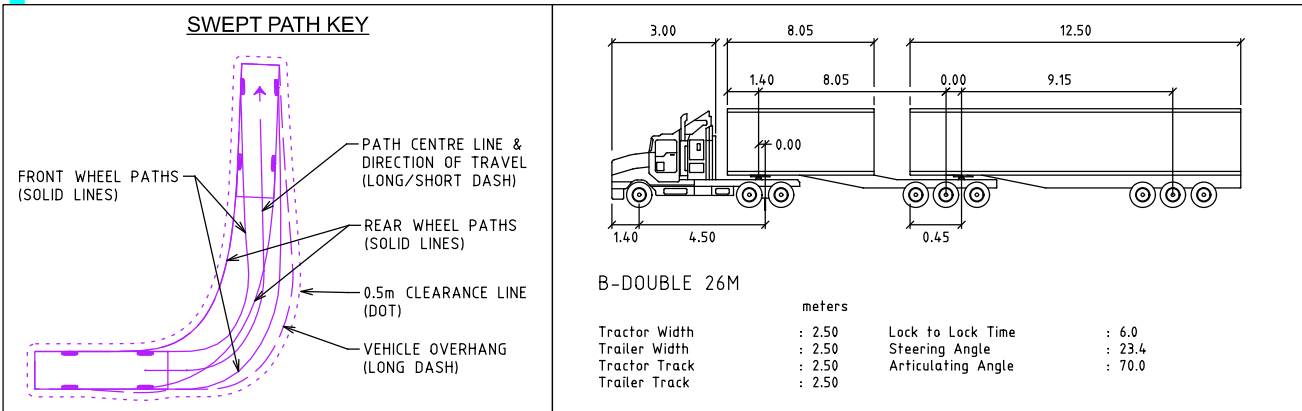
3966 Jingellic Road, Tumbarumba

Snowy Valleys Council

Swept Path Assessment

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JINGELIC ROAD

Drawing Record

ISSUE	DRAWN	APP'D	DATE	AMENDMENT
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WARNING
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PRELIMINARY PLAN
FOR DISCUSSION PURPOSES ONLY
SUBJECT TO CHANGE WITHOUT NOTIFICATION
DATE OF ISSUE: 07/11/24

Notes & Legend

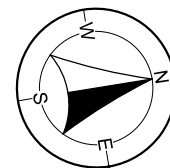
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3966 Jingellic Road, Tumbarumba

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Swept Path Assessment

SHEET NO.
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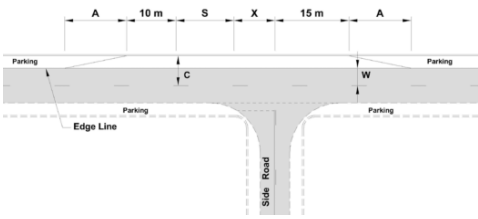
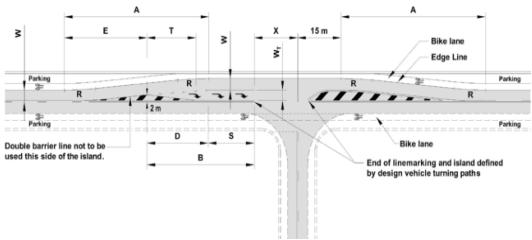
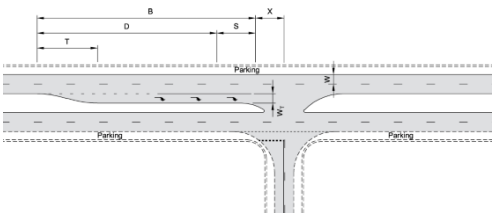
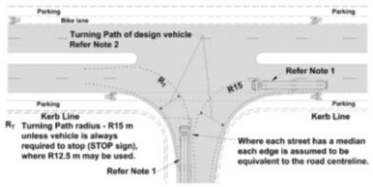
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ISSUE
P1

Appendix 3 – Turn treatments

A3.1 – Urban turn treatments

Table 6: Turn Treatment Descriptions (**Urban**) (Source: Section 7.7, 7.8 and 8.3 of Austroads Guide to Road Design Part 4A)

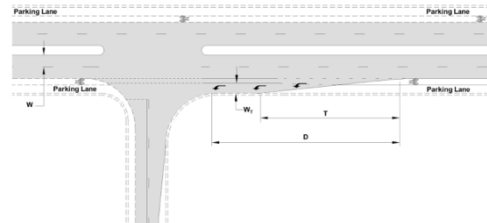
Turn treatment	Description	
BAR	Basic Right turn treatment on the major road, features a widened area (usually in place of parking) on the major road that allows through vehicles to pass to the left of turning vehicles (<i>Figure 7.6 of Austroads Guide to Road Design Part 4A</i>).	
CHR(S)	CHannelised Right (Short) turn is a shorter version of the Channelised Right turn treatment which is reduced by removing space provided for storage in the right lane. This treatment type can only be used with line marking (<i>Figure 7.7 of Austroads Guide to Road Design Part 4A</i>).	
CHR	CHannelised Right turn treatment has two vehicle travel paths (through and right turns) separated by physical or painted medians or islands (<i>Figure 7.8 of Austroads Guide to Road Design Part 4A</i>).	
BAL	BAsic Left turn treatment on the major road has a radius large enough to accommodate a design vehicle turning left into the minor road without crossing the centre line of the minor road (<i>Figure A15 of Austroads Guide to Road Design Part 4</i>).	

Turn treatment

Description

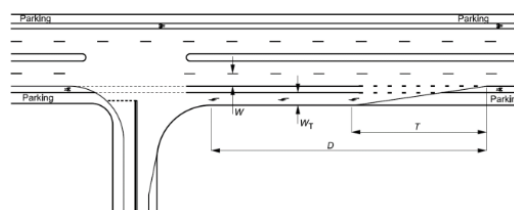
AUL(S)

AUXiliary Left (**S**hort) turn treatment is a shorter version of the Auxiliary Left turn treatment which is reduced by allowing some deceleration to occur in the through lane on the major road. This turn treatment also allows through vehicles to pass to the right of turning vehicles (*Figure A17 of Austroads Guide to Road Design Part 4*).



AUL

AUXiliary Left turn treatment is a left turn lane on the major road that allows through vehicles to pass to the right of turning vehicles (*Figure 8.6 of Austroads Guide to Road Design Part 4A*).



A3.2 – Rural turn treatments

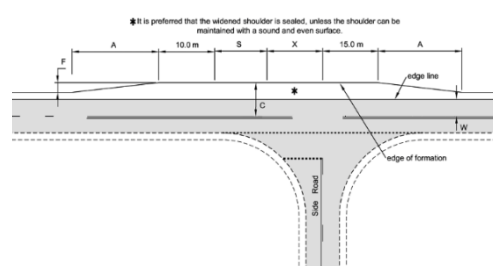
Table 7: Turn Lane Treatment Descriptions (**Rural**) (Source: Section 7.5 and 8.2 of Austroads Guide to Road Design Part 4A)

Turn treatment

Description

BAR

BAasic Right turn treatment on the major road, features a widened area (usually in place of parking) on the major road that allows through vehicles to pass to the left of turning vehicles (*Figure A6 of Austroads Guide to Road Design Part 4*).

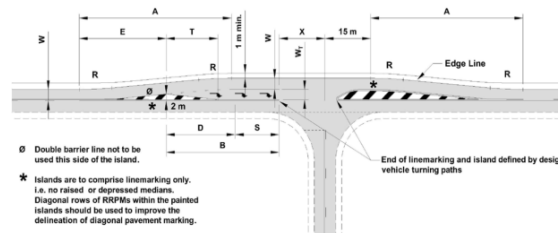


Turn treatment

Description

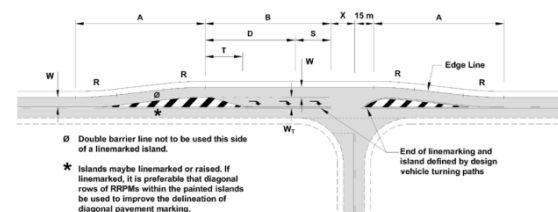
CHR(S)

CHannelised Right (**S**hort) turn is a shorter version of the Channelised Right turn treatment which is reduced by removing space provided for storage in the right lane. This treatment type can only be used with line marking (Figure A7 of Austroads Guide to Road Design Part 4).



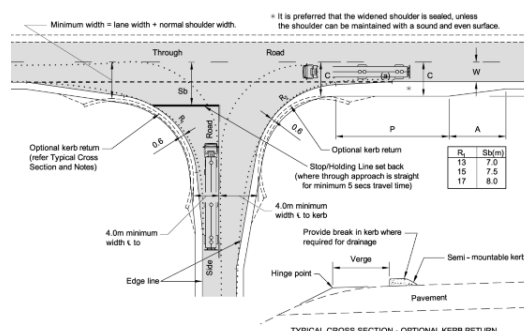
CHR

CHannelised Right turn treatment has two vehicle travel paths (through and right turns) separated by physical or painted medians or islands (Figure A8 of Austroads Guide to Road Design Part 4).



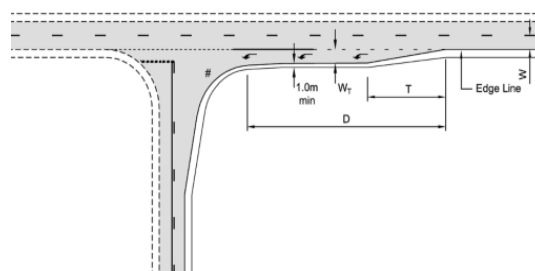
BAL

BAsic Left turn treatment on the major road has a radius large enough to accommodate a design vehicle turning left into the minor road without crossing the centre line of the minor road (Figure 8.2 of Austroads Guide to Road Design Part 4A).



AUL(S)

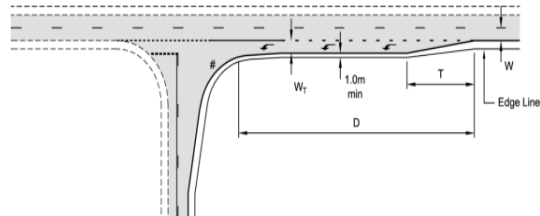
AUXiliary Left (**S**hort) turn treatment is a shorter version of the Auxiliary Left turn treatment which is reduced by allowing some deceleration to occur in the through lane on the major road. This turn treatment also allows through vehicles to pass to the right of turning vehicles (Figure 8.3 of Austroads Guide to Road Design Part 4A).



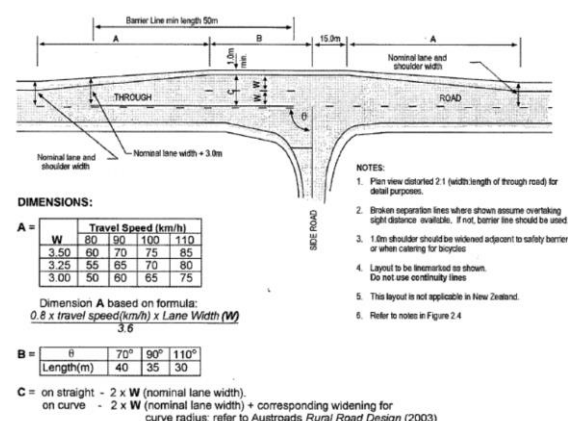
Turn treatment

Description

AUL AUXiliary Left turn treatment is a left turn lane on the major road that allows through vehicles to pass to the right of turning vehicles (*Figure 8.4 of Austroads Guide to Road Design Part 4A*).



AUR In addition to the above, DoT will allow the use of the rural **Auxiliary lane Right** turn treatment (from GTEP Part 5) in lieu of the CHR(s) treatment, (refer *Sections 7.5.2 and 7.7.2 of VicRoads Supplement to AGRD4A*)



Appendix 4 – Acronyms and terms

Acronyms / terms	Definition
AGRD4	Austroads Guide to Road Design Part 4 – Intersections and crossings
AGRD4A	Austroads Guide to Road Design Part 4A – Unsignalised and signalised intersections
AGTM6	Austroads Guide to Traffic Management Part 6 – Intersections, interchanges and crossings management
AGTM8	Austroads Guide to Traffic Management Part 8 – Local street management
AS/NZS2890.1	Australian Standard / New Zealand Standard 2890.1 Parking facilities Part 1: Off-street car parking
DTP	Department of Transport and Planning (formerly VicRoads)
ESD	Entering site distance
PSP	Precinct structure plan
SIDRA	SIDRA intersection – micro analytical traffic engineering software to model the performance of intersections
SISD	safe intersection sight distance
TIA	transport impact assessment
vpd	vehicles per day
vph	vehicles per hour
VPA	Victorian Planning Authority