

Ref: 26/064

7th August 2026

James McDonough
Team Leader – Resource Assessments
Energy, Resources and Industry \ Development Assessment and Sustainability
NSW Department of Planning, Housing and Infrastructure
Locked Bag 5022
Parramatta NSW 2124

Re: Response to TfNSW Advice dated 04 June 2026
Modification 2 Karuah Hard Rock Quarry (KHRQ) (DA265-10-2004-Mod-2)
(TfNSW Ref: NTH24/00355/007); and
Modification 11 Karuah East Quarry (KEQ) (MP09_0175-Mod-11) (TfNSW Ref:
NTH24/00355/006)

Dear James,

1.0 Introduction

Hunter Quarries Pty Ltd (HQPL) has engaged Intersect Traffic (Intersect) to undertake a review of the advice received from TfNSW on 04 June 2026 in relation to the concurrent Modification Applications for the Karuah Pit Consolidation Project as follows:

- Modification 11 to KEQ (MP09_0175-Mod-11) (MOD11); and
- Modification 2 to KHRQ (DA 265-10-2004-Mod-2) (MOD2).

The KEQ Project Approval as it relates to annual extraction rates, hours of operation and life of quarry will not be affected by proposed MOD11. Accordingly, there will be no additional heavy vehicle traffic generated to or from the site that has not already been assessed as part of the current approval.

The KHRQ MOD2 proposal seeks to extend the life of the KHRQ from 3 June 2027 to 31 December 2034 and to extend hours of operation to align with the approved KEQ.

For completeness, a *Traffic & Transport Impact Statement, Intersect Traffic, 05 February 2026* (TTIS) was undertaken to inform both the KHRQ MOD2 Application and the concurrent KEQ MOD11 application (as well as a *Peer Review of TTIS & Response to TfNSW* (Barker Ryan Stewart, 08 April 2026)).

Following review of the TTIS and peer review / response, Transport for NSW (TfNSW) have requested additional clarifying information (dated 04 June 2026) in relation to peak operation output capacities; traffic distribution; Austroads turn warrants and modelling for existing and proposed impacts to key classified road intersections using contemporary traffic counts and application of growth rates; baseline traffic conditions

associated with the existing KHRQ and KEQ. The advice provided from TfNSW dated 04 June 2026 is duplicated for both the MOD2 and MOD11 applications.

Responses and clarifying detail in relation to the matters raised by TfNSW are provided below.

2.0 Response to TfNSW Comments

2.1 Item 1 – Confirmation of Maximum (Peak) Traffic Output Capacities

TfNSW Comment:

- 1. Sensitivity testing should be informed by the quarry's peak operational output capacities, rather than unsupported or outdated figures (from weighbridge data), to ensure traffic volumes accurately reflect maximum potential site activity.*

Applicant Response:

Intersect developed the TTIS submitted as part of both the MOD2 and MOD11 applications, on the basis of applying conservative assumptions to determine the maximum (or peak) output capacity of each quarry (KHRQ and KEQ) as restricted by weighbridge capacity at each quarry.

This approach has been applied in the context of:

- very low overall total vehicle movements,
- heavy dominance of quarry-related traffic, and
- exclusive use of Andersite Road and Blue Rock Close by the Applicant (i.e. no other premises or landholdings are accessed).

Accordingly, the purpose of providing the weighbridge data in the TTIS was to provide evidence of what the maximum capacity is (i.e. 70 vtpH with 35 loaded exit movements and 35 return movements at KEQ). A further allowance for services vehicles has been included (i.e. 10 vtpH with 5 inbound movements and 5 outbound movements).

Note – The weighbridge at KEQ utilises a more time-efficient site layout and processing system than KHRQ and therefore this has been conservatively adopted as the maximal output for KHRQ.

The TTIS was therefore conservatively based on a maximum traffic generation potential of 80 vtpH at each quarry. 80 vtpH is generated by KEQ (Blue Rock Close) which is doubled to 160 vtpH to determine the total maximum traffic output (i.e. Andersite Road, The Branch Lane and the Pacific Highway Interchange).

An extract of the TTIS is provided below:

Weighbridge data for the first six months of 2025, provided from Hunter Quarries for the existing KEQ (see Attachment B) indicates a maximum dispatch capacity of 35 vehicles (2nd June 2025) which would indicate that the likely peak hour traffic generation would be a worst-case scenario of

approximately 80 vtpd based on maximum weighbridge capacity, local delivery site and some light vehicle traffic from the site.

Based on this advice and the results of the traffic counts undertaken for this assessment a peak hour traffic generation from each of the quarries of 80 vtpd (88% heavy vehicles) has been adopted in this assessment. Therefore, the likely peak hour traffic volumes on the adjacent local road network providing access to the quarries would be in the order of.

- ♦ *Andersite Road – 160 vtpd; and*
- ♦ *Blue Rock Close – 80 vtpd*

Further sensitivity analysis is not necessary as it will not provide meaningful results as the KEQ weighbridge creates a physically-fixed upper limit for peak hour traffic generation combined with low overall traffic volumes on the adjoining road network. Modelling has been based on the maximum dispatch rate at the KEQ weighbridge (and conservatively applied to both quarries) which has been informed by representative weighbridge data.

It is considered that there is minimal risk of sensitivity testing showing failure of the adjoining road network and is not warranted in this instance.

2.2 Item 2 – Confirmation of Continuous Operation

TfNSW Comment:

2. *Traffic distribution assessments for campaign-based operations, not restricted to movements associated only with current contracts.*

Applicant Response:

As a point of clarification please be advised that both the KEQ and KHRQ operate on a continuous basis in accordance with their approved hours of operation. Neither quarry operates on a campaign basis nor is it proposed to do so.

As noted in item 1 above, the TTIS is based on the maximum KEQ weighbridge capacity (and therefore considers maximum possible worst-case traffic frequencies during periods of high demand). Accordingly, given the highly conservative rates adopted, it is considered that the traffic generation and trip distribution assessments in the report are appropriate and do not require amendment.

2.3 Item 3 – Contemporary Traffic Counts and Austroads Turn Warrants Assessments

TfNSW Comment:

3. *Need for Austroads turn warrants assessments and traffic modelling to address existing and proposed impacts to the key classified road intersections using up-to-date background traffic counts and appropriate growth rates to determine the following scenarios: existing conditions, existing with any development changes and forecast conditions for the proposed 2034 end of quarry life year.*

Applicant Response:

As requested, HQPL commissioned Northern Transport Planning and Engineering (NTPE) to undertake contemporary intersection counts at the following locations on Thursday 2nd July 2026 (PM peak traffic period) and Friday 3rd July 2026 (AM peak traffic period):

- Tarean Road / The Branch Lane & Andersite Road intersection; and the
- Tarean Road northern interchange intersections.

The counts undertaken identified the AM peak period to be 8 am to 9 am and the PM peak period varying between 1 pm and 3.15 pm indicating that the peak AM and PM traffic periods on the local road network are heavily influenced by quarry traffic. The results of these counts are provided in **Attachment 1**.

NTPE also undertook 1 week traffic classifier counts on Andersite Road and Blue Rock Close between Monday 24th November 2025 and Sunday 30th November 2025. This data is also provided in **Attachment 1**.

The resulting baseline (2026) two-way mid-block traffic volumes extracted from this traffic data are shown in **Table 1** below, inclusive of heavy vehicle percentages. Please note that the end of proposed quarry life (December 2034) baseline traffic conditions are also included in **Table 1** and have been predicted by adopting a background traffic growth rate of 2% compound per annum as recommended by TfNSW for situations of normal growth where background traffic growth cannot be determined due to the lack of historical data.

Table 1 – Two-Way Mid-Block Traffic Volumes

Road	Section	2026		2034 @ 2% p.a.	
		AM (vtph)	PM (vtph)	AM (vtph)	PM (vtph)
Tarean Road	south of Pacific Highway	99	126	116	148
Tarean Road	north of Pacific Highway	55	56	64	66
Tarean Road	south of Andersite Road	56	61	66	71
Andersite Road	east of Tarean Road (intersection count)	42	47	49	55
Andersite Road	east of Tarean Road (classifier count)	32	35	37	41
Blue Rock Close	east of Andersite Road (classifier count)	52	46	61	54
Andersite Road heavy vehicle percentage		18%	average		
Tarean Road north of Pacific Highway heavy vehicle percentage		34%	average		
Tarean Road south of Pacific Highway heavy vehicle percentage		9%	average		
Classifier count - 7 day result					
Andersite Road heavy vehicle percentage 28% average					
Blue Rock Close heavy vehicle percentage 37% average					

Analysis of this data confirms that the local road network is operating with extremely low two-way mid-block traffic volumes which are less than the thresholds for uninterrupted flow conditions at intersections as sourced from *Austrroads Guide to Traffic Management Part 3 Traffic Studies and Analysis* and reproduced below.

Table 6.1: Intersection volumes below which capacity analysis is unnecessary

Type of road	Light cross and turning volumes maximum design hour volumes vehicles per hour (two way)		
Two-lane major road	400	500	650
Cross road	250	200	100
Four-lane major road	1000	1500	2000
Cross road	100	50	25

Noting that the Tarean Road / Branch Lane & Andersite Road intersection operates with major / minor flows of 38 vtph / 24 vtph and the Tarean Road / Pacific Highway interchange operates with major / minor traffic flows of 107 vtph / 52 vtph it is evident that the existing road network intersections near the quarry sites are currently operating with uninterrupted flow conditions with little (to no) delay for motorists. There is no increase in traffic intensity from the proposed development, therefore uninterrupted flow conditions at key intersection controls can be expected to continue

through to the quarry end of life of 31 December 2034 (as is currently approved for KEQ (MP09_0175) and currently proposed under MOD2 (DA265-10-2004) for KHRQ). Therefore, it is reasonable to conclude the proposal does not adversely impact on the adjoining local road network.

Due to the very low through traffic volumes on Tarean Road a turn lane warrant assessment in accordance with Austroads would not result in any warrant for dedicated turn lanes therefore the current layout is suitably safe and based on traffic volumes currently operate with little if any delay or safety concerns.

Turn lane warrants are provided in *Austroads Guide to Traffic Management Part 6 – Intersections, Interchanges and Crossings Management* with the appropriate warrant graph reproduced below.

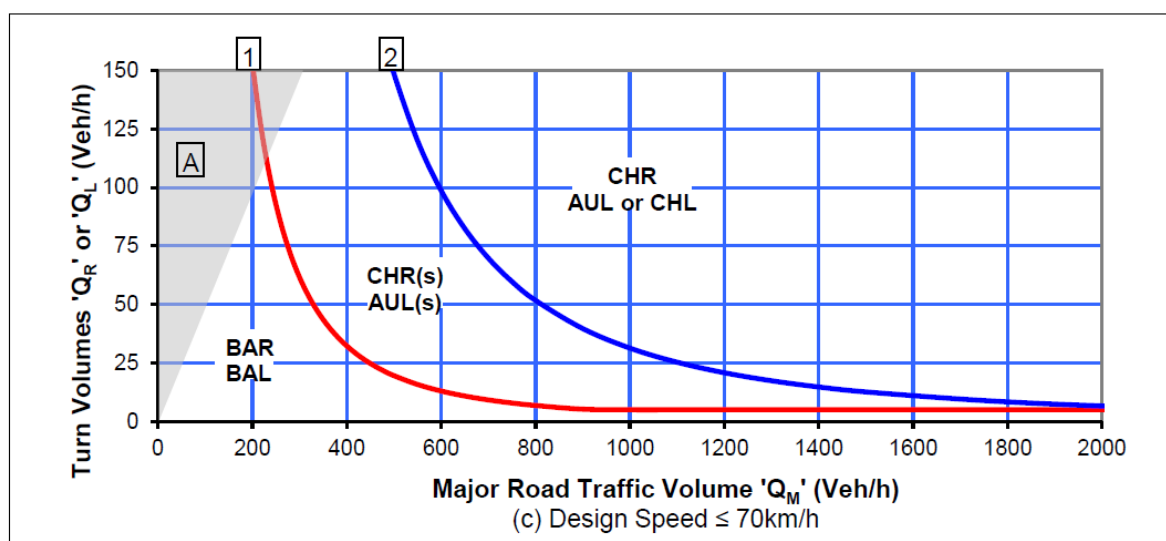
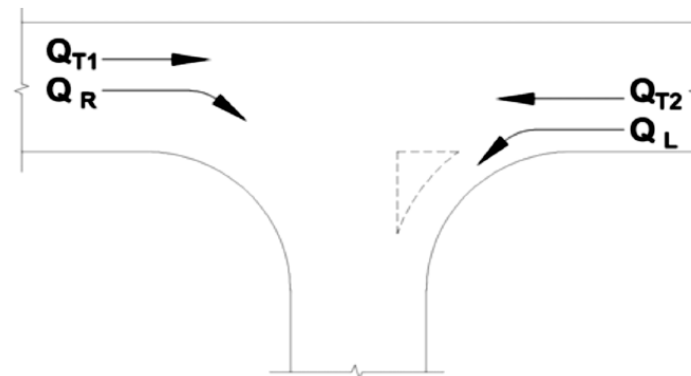


Figure 3.26: Calculation of the major road traffic volume Q_M



Road type	Turn type	Splitter island	Q_M (veh/h)
Two-lane two-way	Right	No	$= Q_{T1} + Q_{T2} + Q_L$
		Yes	$= Q_{T1} + Q_{T2}$
	Left	Yes or no	$= Q_{T2}$
Four-lane two-way	Right	No	$= 50\% \times Q_{T1} + Q_{T2} + Q_L$
		Yes	$= 50\% \times Q_{T1} + Q_{T2}$
	Left	Yes or no	$= 50\% \times Q_{T2}$
Six-lane two-way	Right	No	$= 33\% \times Q_{T1} + Q_{T2} + Q_L$
		Yes	$= 33\% \times Q_{T1} + Q_{T2}$
	Left	Yes or no	$= 33\% \times Q_{T2}$

Noting Q_{MR} and Q_{ML} are less than 200 vtp/h at all nearby intersections, the turn lane warrant assessment determines that all intersections are suitably safe as BAR / BAL intersections with no requirement for specific right and left turn deceleration lanes.

2.4 Item 4 – Baseline Traffic Conditions

TfNSW Comment:

4. *Baseline traffic conditions of the existing Karuah Quarry Complex developments and background traffic on the classified (State) road network, are unclear.*
 - a. *Cumulative traffic impacts on the broader road network from quarries within the region, in particular heavy vehicle movements, remain a concern for both the local community and TfNSW. These impacts should be appropriately assessed.*
 - b. *It is crucial to identify the baseline conditions, prior to introducing any further intensification of use, to understand any potential impacts to the efficiency and operation of the classified road network.*

Applicant Response:

As a point of clarification, please be advised that there are no other quarries operating or approved to operate in the vicinity of the KHRQ and KEQ sites who utilise the same section of the road network to access the Pacific Highway. The KHRQ and KEQ are the only quarry developments, with no other landholders, that use Blue Rock Close and Andersite Road to access The Branch Lane & Tarean Road.

Given that the proposal will not result in any intensification of traffic on these roads and there are no other traffic generating operations/premises that would contribute to cumulative impacts, no further cumulative impact assessment can be completed.

Any future quarry development that would access the above-mentioned road network would be subject to its own assessment process that would consider traffic and transport impacts.

Whilst not specifically stated in the TfNSW correspondence, as confirmed within the TTIS (Section 6.0), there is currently an application under assessment by the NSW Department of Planning, Housing & Infrastructure (NSW Planning) for the proposed Karuah South Quarry (KSQ) (SSD-8795) on Lot 11 DP 1024564, which proposes access from Blue Rock Close. With its recent acquisition of Lot 11, HQPL are now the proponent for the KSQ application. There are no cumulative impacts from the proposed KSQ because, if approved, its operations will not commence until after KHRQ has ceased operation.

It is also noted that Tarean Road by 2034 will have a maximum mid-block two-way traffic volume of approximately 150 vtp. This is contrasted against the two-way mid-block capacity of a rural two-way two-lane road of up to 1,400 vtp.

Accordingly, Tarean Road is currently operating at only a nominal 10% capacity. Therefore it has significant spare two-way mid-block capacity to cater for any future development in the area.

2.5 Item 5 – Impacts of Heavy Vehicle Turn Movements

TfNSW Comment:

5. *Impacts of heavy vehicles turn movements are yet to be sufficiently addressed at the key Pacific Highway/interchange intersections.*
 - a. *Mid-block assessments are inadequate to address turning vehicle impacts at intersections.*
 - b. *No existing intersection turn treatments have been identified for the classified road intersections.*
 - i. *Assumptions regarding the interchange's swept path capability to accommodate heavy vehicles associated with the quarry developments does not replace the need for identifying existing turn treatments or undertaking turn warrant assessments and traffic modelling.*

Applicant Response:

As requested by TfNSW, the Applicant commissioned Barker Ryan Stewart to undertake swept path analysis for heavy vehicles (conservatively modelled using a 25m long B-Double) at the following intersections (refer to **Attachment 2**):

- Karuah interchange – South On-Ramp;
- Karuah Interchange – South Off-Ramp;

- Karuah Interchange – North Off-Ramp; and
- Karuah Interchange – North On-Ramp.

All swept paths completed demonstrate compliance is readily achieved with no need for any intersection upgrade.

2.6 Item 6 – Review of Previous Applications

TfNSW Comment:

6. *It is suggested that past approved development applications / modifications considered the suitability of the interchange for heavy vehicle movements, although:*
 - a. *Past approvals mentioned are from 2005 and 2014, which were over 10 and 20 years ago and potentially no longer accurately reflect the existing background traffic volumes.*
 - b. *It is unclear whether previous applications were referred to TfNSW or assessed for traffic impacts beyond the immediate local roads (as the current TTIS demonstrates).*
 - c. *It is unclear what considerations were made in past applications.*

Applicant Response:

Intersect and the Applicant notes TfNSW's position and has completed the requested assessments where appropriate and where meaningful conclusions can be developed.

3.0 Conclusion

It is considered that the information provided within this response adequately responds to the matters raised by TfNSW in its correspondence dated 04 June 2026.

The proposed Karuah Pit Consolidation Project which will be facilitated by MOD2 to the KHRQ Development Consent (DA265-10-2004) and MOD11 to the KEQ Project Approval (MP09_0175) will not increase annual extraction rates or intensify existing development. The proposal will not change conditions on the local and state road network therefore will not adversely impact on the local and state road network.

We look forward to TfNSW's continued assessment of the MOD2 and MOD11 applications.

We would welcome the opportunity to meet with you to discuss the contents of this submission should you wish.

Yours sincerely



Jeff Garry
ATF Intersect Traffic

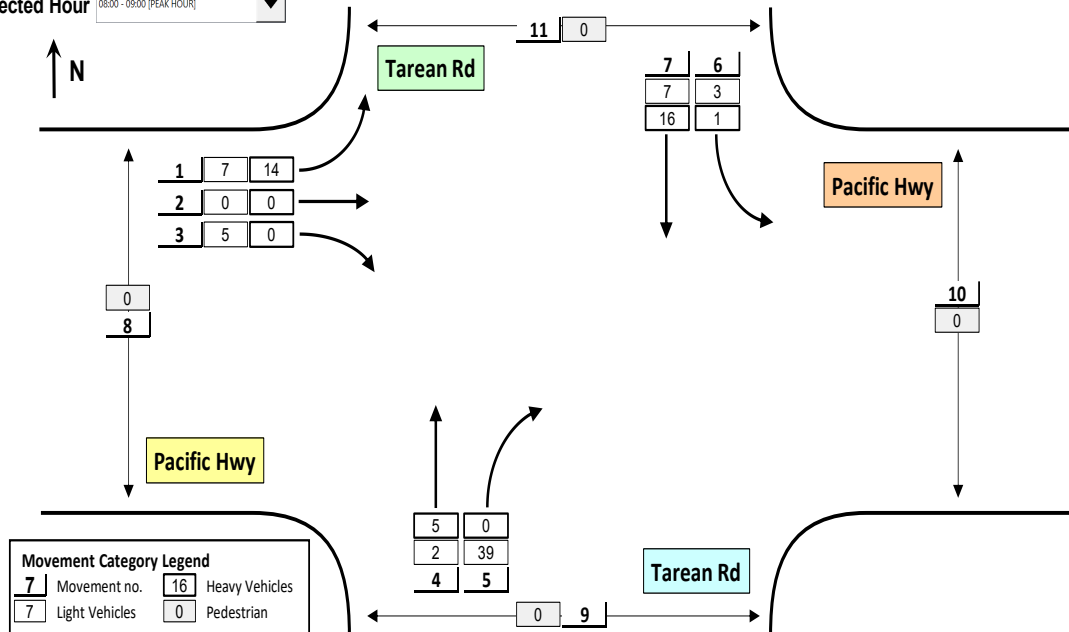
Attachment 1 - Traffic Count Data

274239 INT-02 Tarean Rd & Pacific Hwy (North Side)

03/07/2026

Peak Hour 08:00-09:00

Selected Hour 08:00 - 09:00 (PEAK HOUR)



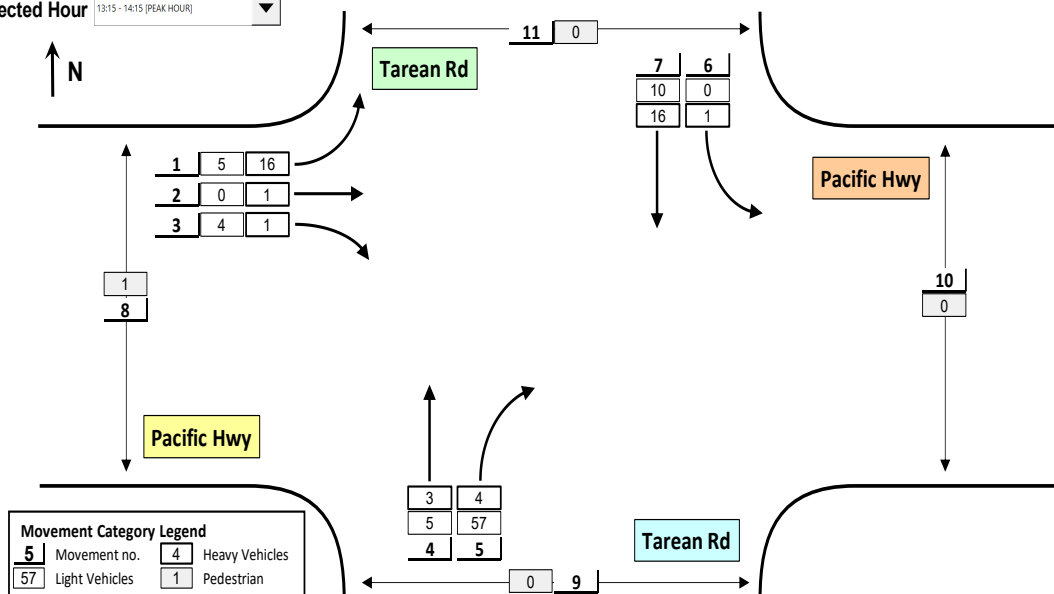
Time Period 2: 03/07/2026 06:00 - 03/07/2026 09:00

274239 INT-02 Tarean Rd & Pacific Hwy (North Side)

02/07/2026

Peak Hour 13:15-14:15

Selected Hour 13:15 - 14:15 (PEAK HOUR)



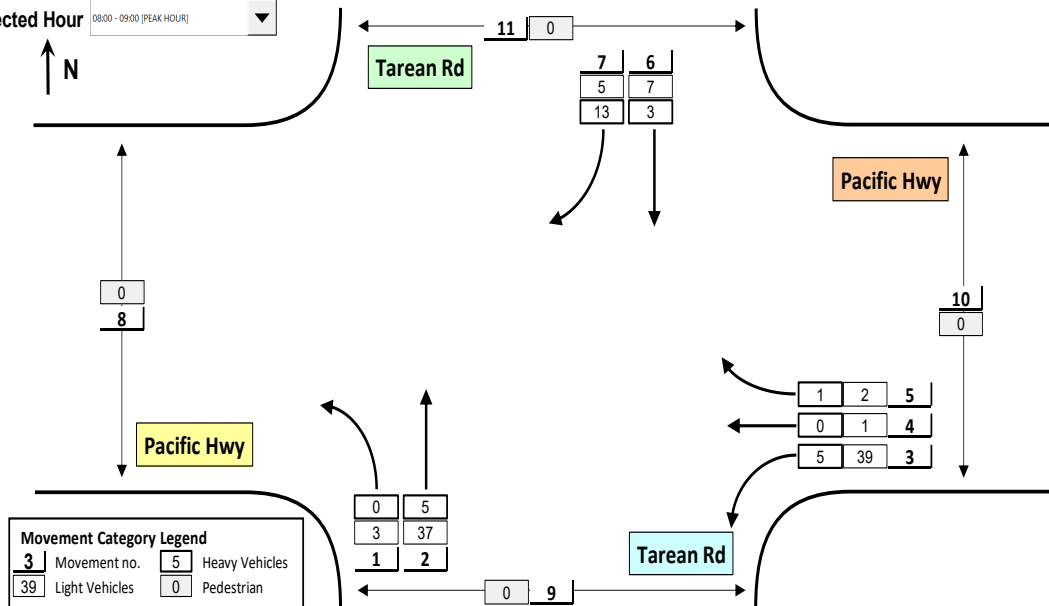
Time Period 1: 02/07/2026 13:00 - 02/07/2026 16:00

274239 INT-03 Tarean Rd & Pacific Hwy (South Side)

03/07/2026

Peak Hour 08:00-09:00

Selected Hour 08:00 - 09:00 [PEAK HOUR]



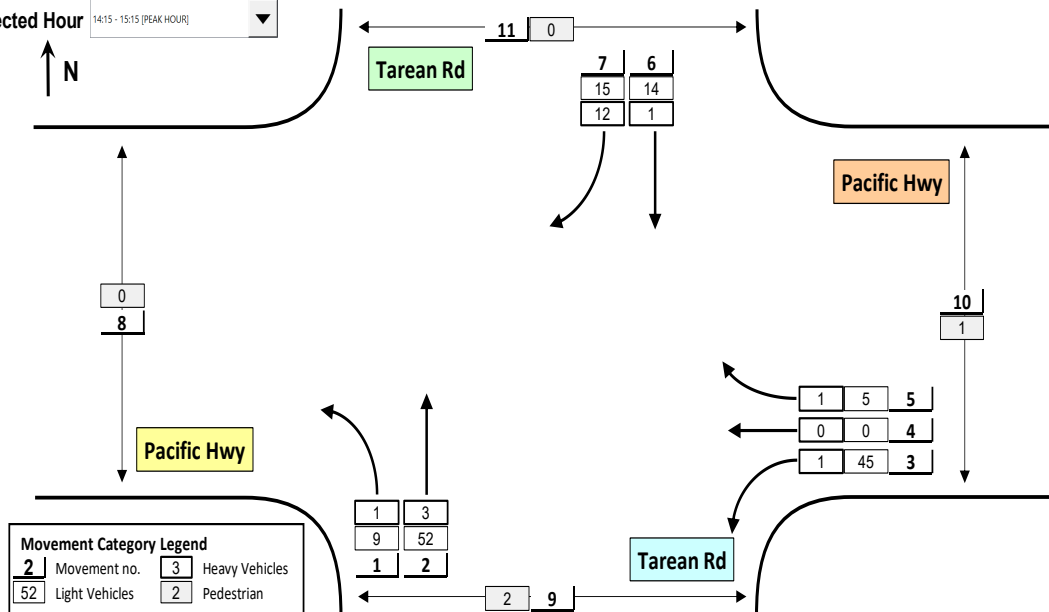
Time Period 2: 03/07/2026 06:00 - 03/07/2026 09:00

274239 INT-03 Tarean Rd & Pacific Hwy (South Side)

02/07/2026

Peak Hour 14:15-15:15

Selected Hour 14:15 - 15:15 [PEAK HOUR]



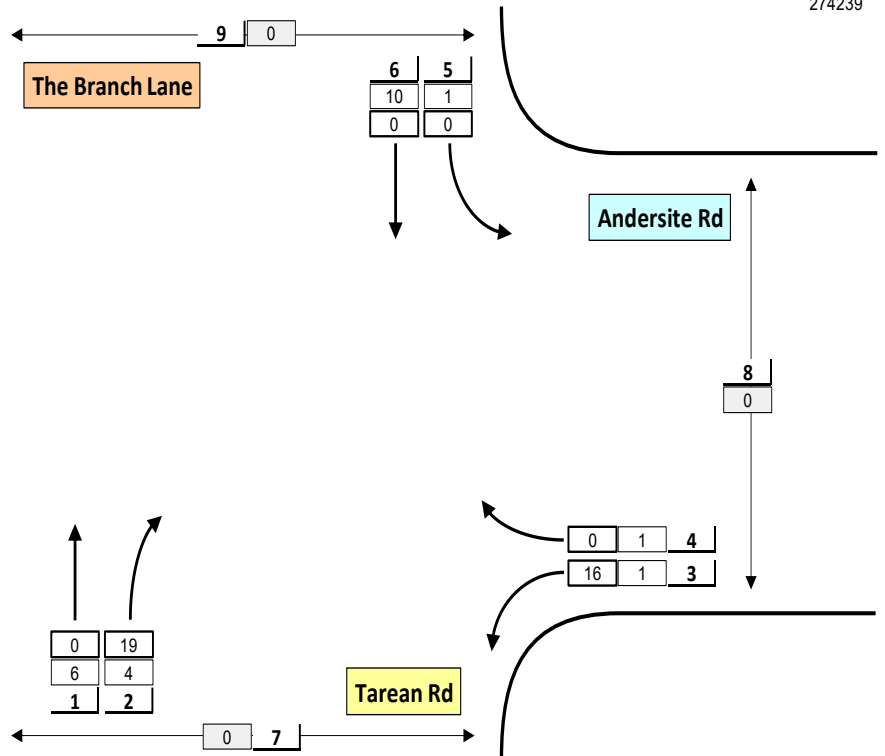
Time Period 1: 02/07/2026 13:00 - 02/07/2026 16:00

274239 INT-01 Andersite Road & The Branch Lane

03/07/2026

Peak Hour 08:00-09:00

Selected Hour 08:00 - 09:00 [PEAK HOUR]



Movement Category Legend			
2	Movement no.	19	Heavy Vehicles
4	Light Vehicles	0	Pedestrian

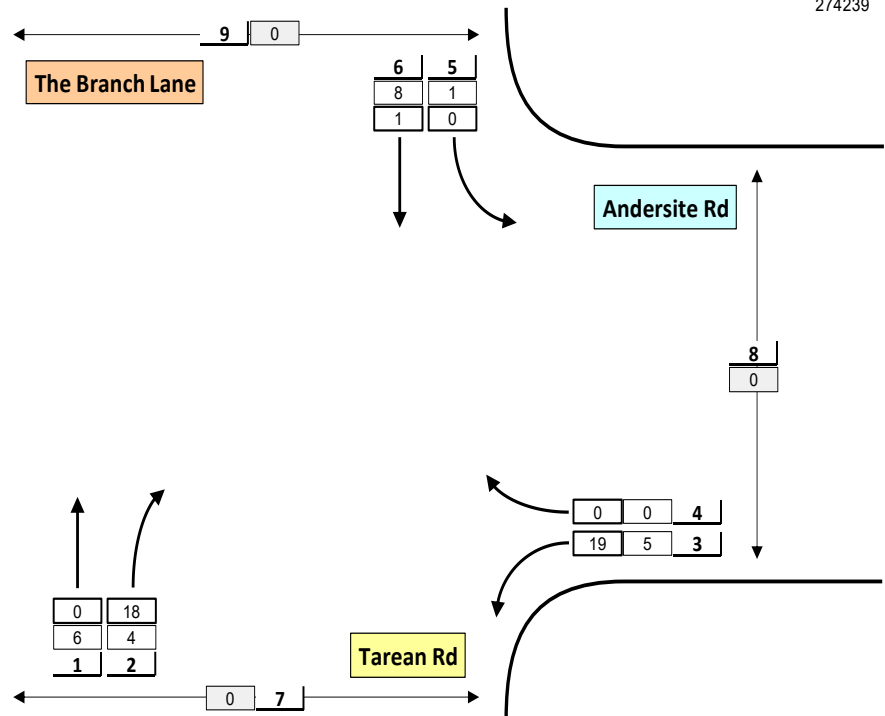
Time Period 2: 03/07/2026 06:00 - 03/07/2026 09:00

274239 INT-01 Andersite Road & The Branch Lane

02/07/2026

Peak Hour 13:00-14:00

Selected Hour 13:00 - 14:00 [PEAK HOUR]

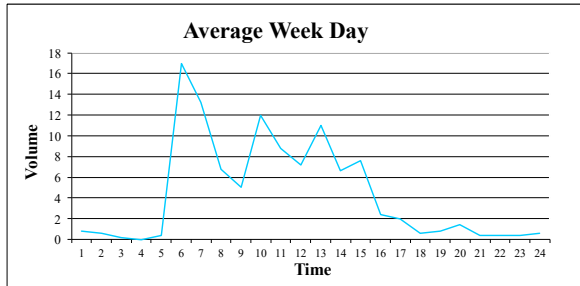


Movement Category Legend			
3	Movement no.	19	Heavy Vehicles
5	Light Vehicles	0	Pedestrian

Time Period 1: 02/07/2026 13:00 - 02/07/2026 16:00

Site 1 ANDERSITE RD EAST OF BLUE ROCK CLOSE [40]
Eastbound

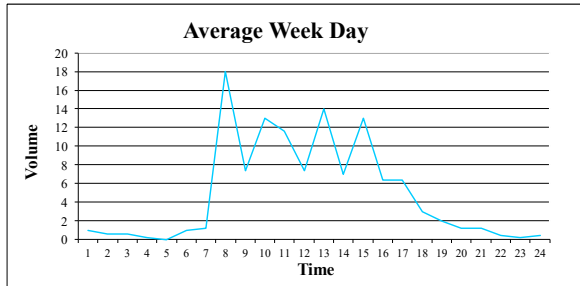
Day Time	Mon 24/11/25	Tue 25/11/2025	Wed 26/11/2025	Thu 27/11/2025	Fri 28/11/2025	Sat 29/11/2025	Sun 30/11/2025	W/Day Ave.	W/End Ave.	7 Day Ave
0:00	0	2	0	2	0	0	0	1	0	1
1:00	0	1	1	1	0	0	0	1	0	0
2:00	0	1	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	0	0	0	0
4:00	0	0	1	0	1	1	0	0	1	0
5:00	17	17	14	21	16	6	0	17	3	13
6:00	11	12	8	11	24	0	0	13	0	9
7:00	4	11	7	7	5	12	0	7	6	7
8:00	6	6	7	6	0	0	0	5	0	4
9:00	15	18	11	8	8	3	0	12	2	9
10:00	5	11	7	8	13	5	0	9	3	7
11:00	5	11	7	10	3	0	0	7	0	5
12:00	13	9	4	11	18	0	0	11	0	8
13:00	3	13	6	6	5	1	0	7	1	5
14:00	5	13	5	10	5	0	0	8	0	5
15:00	4	4	0	1	3	0	0	2	0	2
16:00	1	3	0	4	2	1	0	2	1	2
17:00	1	1	0	0	1	0	0	1	0	0
18:00	1	2	1	0	0	0	0	1	0	1
19:00	1	1	1	2	2	0	0	1	0	1
20:00	1	0	0	1	0	0	0	0	0	0
21:00	0	0	0	2	0	0	0	0	0	0
22:00	0	2	0	0	0	0	0	0	0	0
23:00	0	1	0	2	0	0	0	1	0	0
Total	93	139	80	113	106	29	0	106	15	80



Weekday Max Peak			
	from	to	
AM Peak	6:00 AM	7:00 AM	24
PM Peak	12:00 PM	1:00 PM	18
Week Day Average			106
Weekend Day Average			15
7 Day Average			80

Site 1 ANDERSITE RD EAST OF BLUE ROCK CLOSE [40]
Westbound

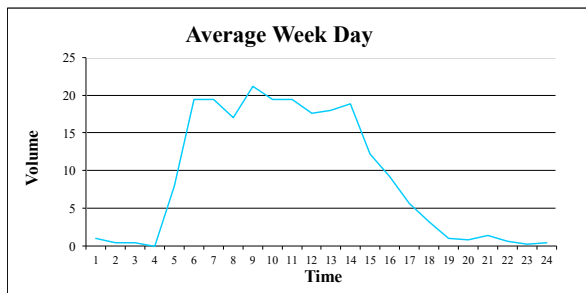
Day Time	Mon 24/11/25	Tue 25/11/2025	Wed 26/11/2025	Thu 27/11/2025	Fri 28/11/2025	Sat 29/11/2025	Sun 30/11/2025	W/Day Ave.	W/End Ave.	7 Day Ave
0:00	0	1	2	2	0	0	0	1	0	1
1:00	0	2	1	0	0	0	0	1	0	0
2:00	0	2	0	1	0	0	0	1	0	0
3:00	0	1	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	0	0	0	0
5:00	1	0	1	3	0	0	0	1	0	1
6:00	0	0	0	1	5	0	0	1	0	1
7:00	19	16	13	15	27	13	0	18	7	15
8:00	5	16	7	7	2	0	0	7	0	5
9:00	16	13	13	15	8	1	0	13	1	9
10:00	9	15	13	4	17	9	0	12	5	10
11:00	7	10	5	8	7	0	0	7	0	5
12:00	13	11	15	14	17	6	0	14	3	11
13:00	2	12	5	11	5	1	0	7	1	5
14:00	8	15	21	12	9	0	0	13	0	9
15:00	9	4	0	6	13	0	0	6	0	5
16:00	4	15	0	7	6	1	0	6	1	5
17:00	5	3	0	3	4	0	0	3	0	2
18:00	4	0	0	5	1	0	0	2	0	1
19:00	1	2	0	1	2	0	0	1	0	1
20:00	1	2	2	1	0	0	0	1	0	1
21:00	0	0	0	2	0	0	0	0	0	0
22:00	0	1	0	0	0	0	0	0	0	0
23:00	0	0	0	2	0	0	0	0	0	0
Total	104	141	98	120	123	31	0	117	16	88



Weekday Max Peak			
	from	to	
AM Peak	7:00 AM	8:00 AM	27
PM Peak	2:00 PM	3:00 PM	21
Week Day Average			117
Weekend Day Average			16
7 Day Average			88

Site 2 BLUE ROCK CLOSE EAST OF ANDERSITE RD [60]
Eastbound

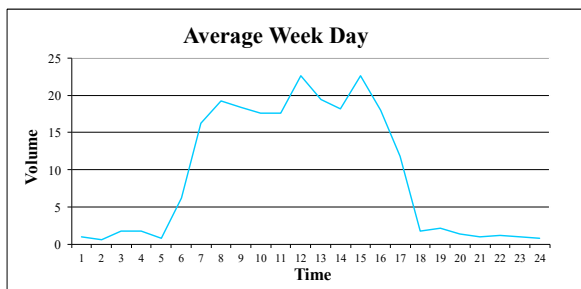
Day Time	Mon 24/11/25	Tue 25/11/2025	Wed 26/11/2025	Thu 27/11/2025	Fri 28/11/2025	Sat 29/11/2025	Sun 30/11/2025	W/Day Ave.	W/End Ave.	7 Day Ave
0:00	0	1	2	2	0	0	0	1	0	1
1:00	0	1	1	0	0	0	0	0	0	0
2:00	0	1	0	1	0	0	0	0	0	0
3:00	0	0	0	0	0	0	0	0	0	0
4:00	7	7	7	10	9	5	0	8	3	6
5:00	18	20	20	25	14	9	0	19	5	15
6:00	18	18	12	19	30	5	0	19	3	15
7:00	15	21	15	13	21	14	0	17	7	14
8:00	30	18	21	19	18	2	0	21	1	15
9:00	16	17	17	24	23	8	0	19	4	15
10:00	26	16	20	12	23	5	0	19	3	15
11:00	12	22	17	20	17	1	0	18	1	13
12:00	21	16	17	17	19	0	0	18	0	13
13:00	24	22	13	21	14	0	0	19	0	13
14:00	11	14	14	12	10	0	0	12	0	9
15:00	15	8	3	12	8	0	1	9	1	7
16:00	2	7	5	10	4	0	0	6	0	4
17:00	7	6	0	2	1	0	0	3	0	2
18:00	0	0	0	2	3	0	0	1	0	1
19:00	1	1	0	1	1	0	0	1	0	1
20:00	2	2	2	1	0	0	0	1	0	1
21:00	0	0	0	2	1	0	0	1	0	0
22:00	0	1	0	0	0	0	0	0	0	0
23:00	0	0	0	2	0	0	0	0	0	0
Total	225	219	186	227	216	49	1	215	25	160



Weekday Max Peak			
	from	to	
AM Peak	6:00 AM	7:00 AM	30
PM Peak	1:00 PM	2:00 PM	24
Week Day Average			215
Weekend Day Average			25
7 Day Average			160

Site 2 BLUE ROCK CLOSE EAST OF ANDERSITE RD [60]
Westbound

Day Time	Mon 24/11/25	Tue 25/11/2025	Wed 26/11/2025	Thu 27/11/2025	Fri 28/11/2025	Sat 29/11/2025	Sun 30/11/2025	W/Day Ave.	W/End Ave.	7 Day Ave
0:00	0	1	1	2	1	3	0	1	2	1
1:00	0	1	1	1	0	0	0	1	0	0
2:00	0	1	4	2	2	0	0	2	0	1
3:00	0	1	2	3	3	0	0	2	0	1
4:00	0	4	0	0	0	0	0	1	0	1
5:00	6	4	4	10	7	4	0	6	2	5
6:00	16	17	12	14	22	6	0	16	3	12
7:00	15	18	21	20	22	14	0	19	7	16
8:00	20	21	15	19	17	4	0	18	2	14
9:00	22	13	13	19	21	6	0	18	3	13
10:00	19	12	24	16	17	4	0	18	2	13
11:00	24	25	20	20	24	12	0	23	6	18
12:00	19	17	16	16	29	1	0	19	1	14
13:00	21	17	13	25	15	0	0	18	0	13
14:00	20	26	32	19	16	0	0	23	0	16
15:00	26	26	1	22	15	0	1	18	1	13
16:00	15	11	10	15	8	1	0	12	1	9
17:00	3	1	1	2	2	0	0	2	0	1
18:00	3	4	1	1	2	0	0	2	0	2
19:00	1	1	1	2	2	0	0	1	0	1
20:00	2	1	0	2	0	0	0	1	0	1
21:00	2	0	1	2	1	0	0	1	0	1
22:00	0	3	0	1	1	0	0	1	0	1
23:00	0	1	0	3	0	0	0	1	0	1
Total	234	226	193	236	227	55	1	223	28	167

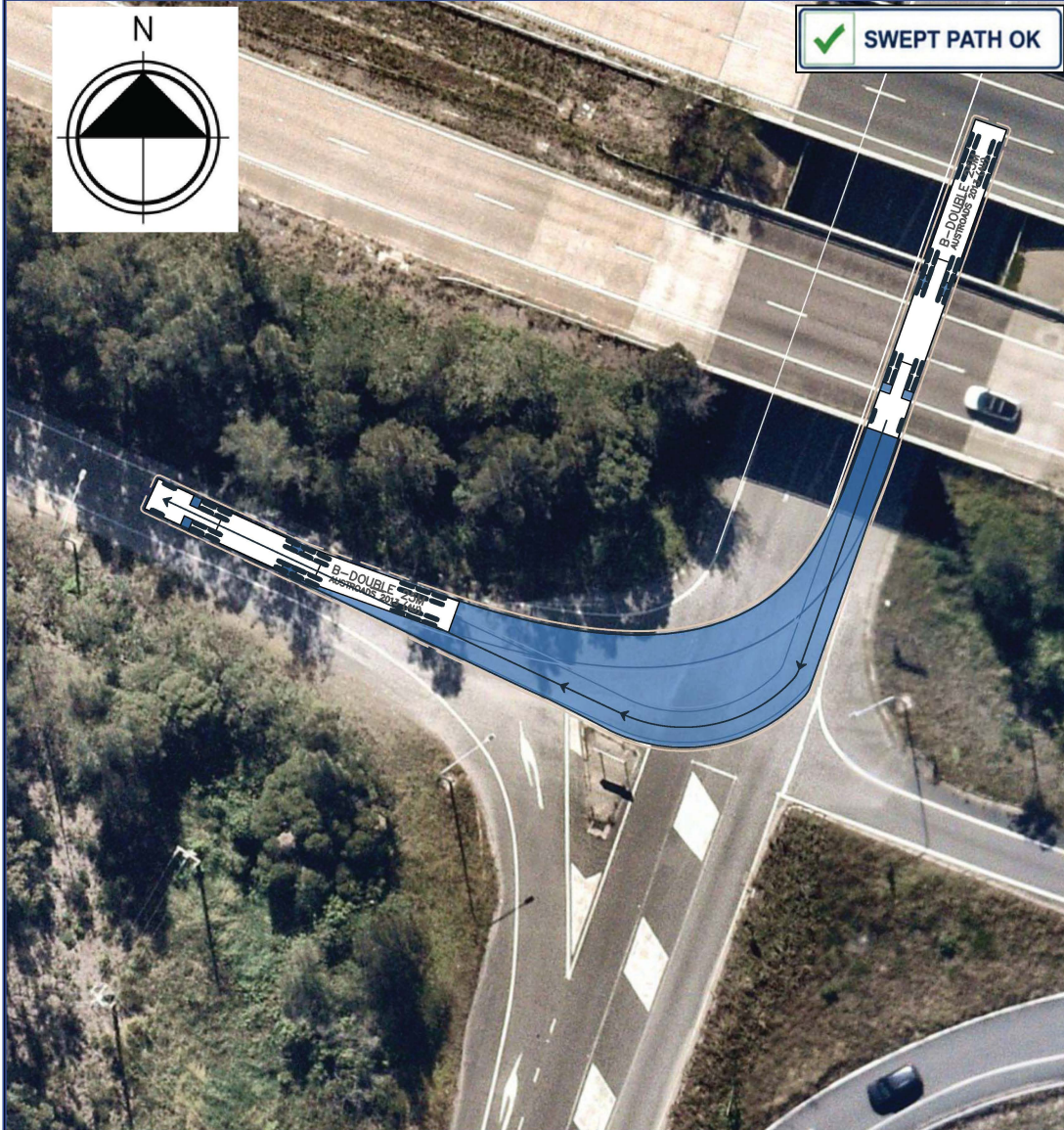


Weekday Max Peak			
	from	to	
AM Peak	11:00 AM	12:00 PM	25
PM Peak	2:00 PM	3:00 PM	32
Week Day Average			223
Weekend Day Average			28
7 Day Average			167

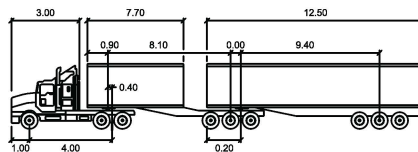
Attachment 2 – Swept Path Analysis



✓ SWEPT PATH OK



Karuah Interchange - South On-Ramp



B-DOUBLE 25M

Tractor Width : 2.50
Trailer Width : 2.50
Tractor Track : 2.50
Trailer Track : 2.50

Karuah Interchange - South Off-Ramp

Tractor Width : 2.50
Trailer Width : 2.50
Tractor Track : 2.50
Trailer Track : 2.50
Lock to Lock Time : 6.0
Steering Angle : 20.7
Articulating Angle : 70.0

✓ SWEPT PATH OK



INFRASTRUCTURE | DEVELOPMENT | CERTIFICATION

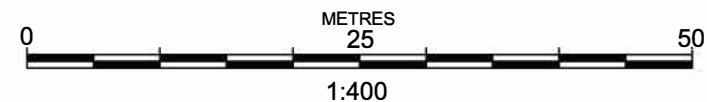
©2026
ABN: 26 134 067 842
T: (02) 9659 0005
E: admin@brs.com.au

brs.com.au

Karuah Pit Consolidation Project

Client: Hunter Quarries Pty Ltd

REV.	AMENDMENT	DES.	CHK.	DATE
A	PRELIMINARY ISSUE	RC	GB	01/08/2026
B	PRELIMINARY ISSUE	RC	GB	01/08/2026



FILE REF.
260210

SET NO.
1

PATH NO.
1 of 2

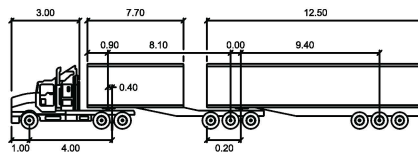
REVISION
B



✓ SWEPT PATH OK



Karuah Interchange - North Off-Ramp



B-DOUBLE 25M

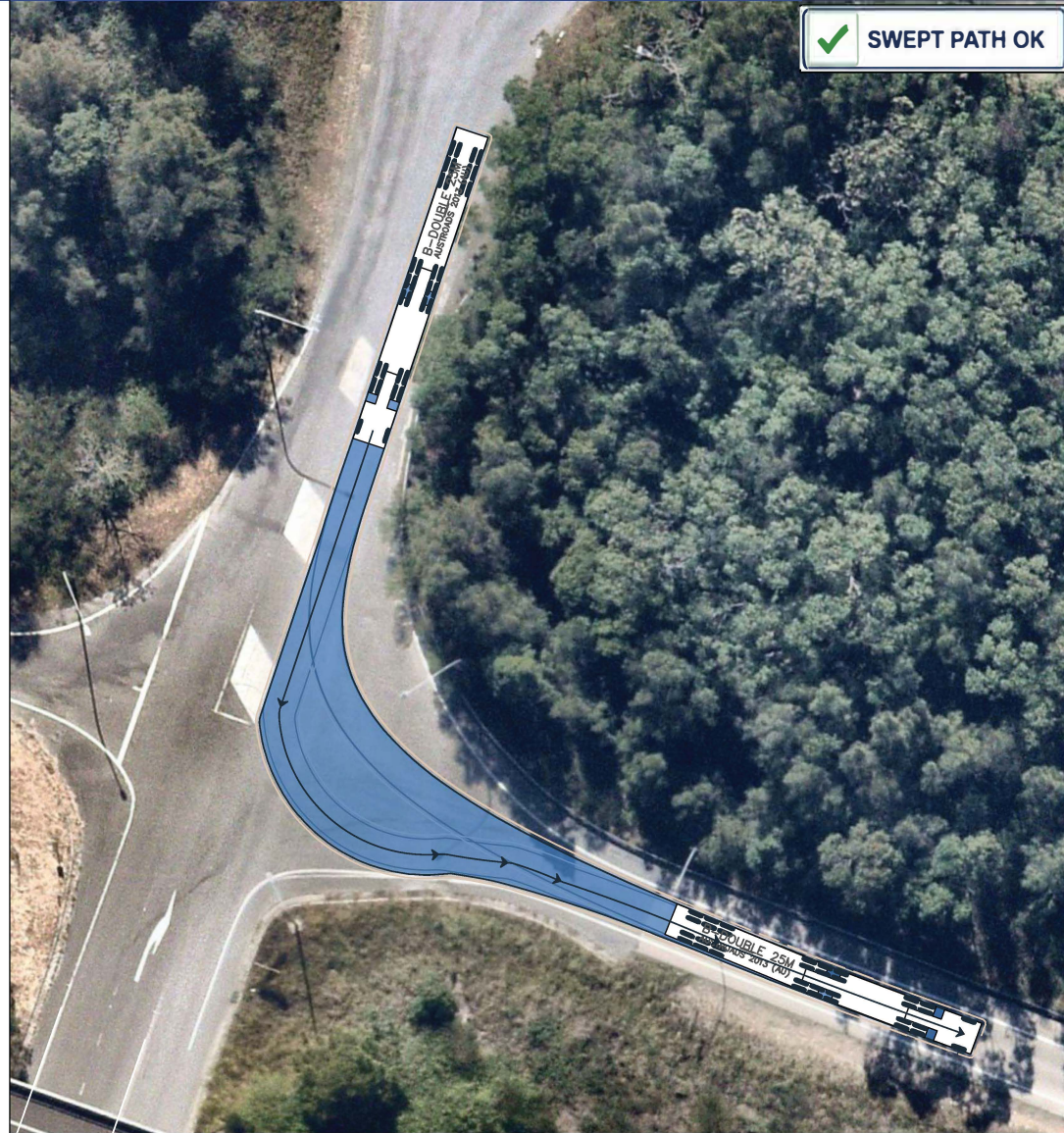
Tractor Width
Trailer Width
Tractor Track
Trailer Track

Karuah Interchange - North On-Ramp

meters

Tractor Width : 2.50
Trailer Width : 2.50
Tractor Track : 2.50
Trailer Track : 2.50
Lock to Lock Time : 6.0
Steering Angle : 20.7
Articulating Angle : 70.0

✓ SWEPT PATH OK



©2026
ABN: 26 134 067 842
T: (02) 9659 0005
E: admin@brs.com.au

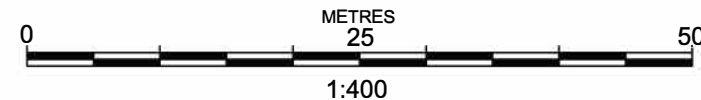
brs.com.au

INFRASTRUCTURE | DEVELOPMENT | CERTIFICATION

Karuah Pit Consolidation Project

Client: Hunter Quarries Pty Ltd

REV.	AMENDMENT	DES.	CHK.	DATE
A	PRELIMINARY ISSUE	RC	GB	01/08/2026
B	PRELIMINARY ISSUE	RC	GB	01/08/2026



FILE REF.
260210

SET NO.
1

PATH NO.
2 of 2

REVISION
B