

# Appendix 6

Ardmore Park Quarry – Modification 3

## Swept Path Analysis on the Product Delivery Route

prepared by

Transport & Urban Planning Pty Ltd

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September 2018

**MULTIQUIP QUARRIES**

*Ardmore Park Quarry  
Appendix 6*

**RESPONSE TO SUBMISSIONS**

*PA 07\_0155 MOD3  
Report No. 625/25*

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**SECOND  
SUPPLEMENTARY TRAFFIC REPORT FOR  
ARDMORE PARK QUARRY  
BUNGONIA  
MODIFICATION 3  
SWEPT PATH ANALYSIS**

Ref. 17126R3

28 September 2018

Prepared By



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### **ILLUSTRATIONS**

Figure 1	Swept Paths for Jerrara Road / Mountain Ash Road Intersection
Figure 2	Swept Paths for Mountain Ash Road and Bungonia By-Pass Road Intersection
Figure 3	Swept Paths for Oallen Ford Road / Bungonia By-Pass Road Intersection
Figure 4	Swept Paths for Oallen Ford Road / Ardmore Park Quarry Access Road Intersection

## 1.0 PROJECT INFORMATION

Multiquip Quarries have lodged an application to amend the existing consent for the Ardmore Park Quarry. The application (Modification 3) proposes to increase annual materials production without any increase to total approved truck movements. This will be achieved using High Mass Limit Trucks which will increase load capacity from 30 tonne to 50.3 tonne. The truck and dog combination for these High Mass Limit Trucks are 25.8 metres in length which is an increase over the 19 metre long truck and dog combinations currently used.

As part of the assessment process, the Department of Planning and Environment has requested that;

- 1) Traffic modeling be undertaken for the existing intersections on the road network adjacent the Quarry; and
- 2) Swept path diagrams be provided at these intersections using the larger 25.8 metre long truck and dog trailer showing the turnpath of these large vehicles.

Transport and Urban Planning Pty Ltd has been engaged by Multiquip to provide the additional traffic information requested by the Department of Planning and Environment.

This report documents the swept path analysis undertaken for the intersections.

A separate report has been prepared to document the results of the traffic modelling undertaken for the intersections.

## 2.0 INTERSECTIONS REVIEWED

The swept path analysis has been undertaken for the following intersections;

- 1) Jerrara Road/Mountain Ash Road (T junction);
- 2) Mountain Ash Road/By Pass Road (T junction);
- 3) Oallen Ford Road/By Pass Road (T-junction); and
- 4) Oallen Ford Road/Ardmore Park Quarry Access Road (T junction).

All of the above intersections are constructed as T-junction intersections with generally single approach and departure lanes.

Wider approach lanes are provided at the intersections as follows:

- Mountain Ash Road;
  - For the left turn into Jerrara Road (this is not line marked and the approach is a single lane); and
  - For the left turn into the By Pass (this is line marked as an auxiliary lane but there are no left turn road marking arrows); and in
- Oallen Ford Road;
  - For the left turn into the By Pass (this is line marked as an auxiliary lane but there are not left turn road marking arrows); and

- For the left turn into the Ardmore Park Quarry Access Road (this is line marked as an auxiliary lane but there are not left turn road marking arrows).

### 3.0 TRAFFIC VOLUMES USING INTERSECTIONS

Traffic counts were undertaken at all the intersections on 20 and 21 June 2018 during the 6.00am – 8.00am period and 4.00pm and 6.00pm period.

Table 2.1 shows the total vehicles using each of the intersections during the AM and PM peak hours which occurred between 7.00am and 8.00am and 4.45pm and 5.45pm respectively.

Reference to Table 2.1 shows that the traffic volumes using the intersections are very low reflecting limited usage consistent with the rural environments.

**TABLE 3.1**

**TOTAL VOLUMES USING INTERSECTION DURING AM AND PM PEAK HOUR ADJACENT ARDMORE PARK QUARRY**

Intersection	AM Peak		PM Peak	
	Total Volumes	No. of Heavy Vehicles <sup>1</sup>	Total Volumes	No. of Heavy Vehicles <sup>1</sup>
Jerrara Road/Mountain Ash Road	64	9	68	4
Mountain Ash Road/By Pass Road	45	6	40	1
Oallen Ford Road/By Pass Road	34	2	41	2
Oallen Ford Road/Ardmore Quarry Access Road	35	4	44	3

<sup>1</sup> Austroads Class 3-12 Vehicles

Source Traffic Counts 20 and 21 June 2018

Future maximum truck and dog vehicles generated by Ardmore Park Quarry will be a maximum of 14 truck and dog movements per hour (ie. 7 vehicles per hour in each direction).

### 4.0 SWEEP PATH ANALYSIS

The swept path analysis has been undertaken for a 25.8 metre long truck and dog combination using the AUTOfurn software. Clearances of 600mm are shown on both sides of the truck turnpath.

The base plans, for all the intersection was derived from survey data provided by Multiquip.

**Figure 1** shows the swept path for right turn out of Jerrara Road into Mountain Ash Road and left turn from Mountain Ash Road into Jerrara Road.

For the left turn movement from Mountain Ash Road into Jerrara Road, the left turn swept paths shows the truck and dog turning from the kerbside auxiliary lane and also from the adjoining through eastbound lane, which trucks are legally permitted to do.

Reference to **Figure 1** shows that the swept paths are satisfactory.

**Figure 2** shows the swept paths for the right turn out of the Private By-Pass road into Mountain Ash Road and the left turn from Mountain Ash Road into the Private By-Pass Road.

For the left turn movement from Mountain Ash Road into the Private By-Pass Road the left turn swept paths shows the truck and dog turning from the kerbside auxiliary lane and also from the adjoining through westbound lane, which trucks are legally permitted to do.

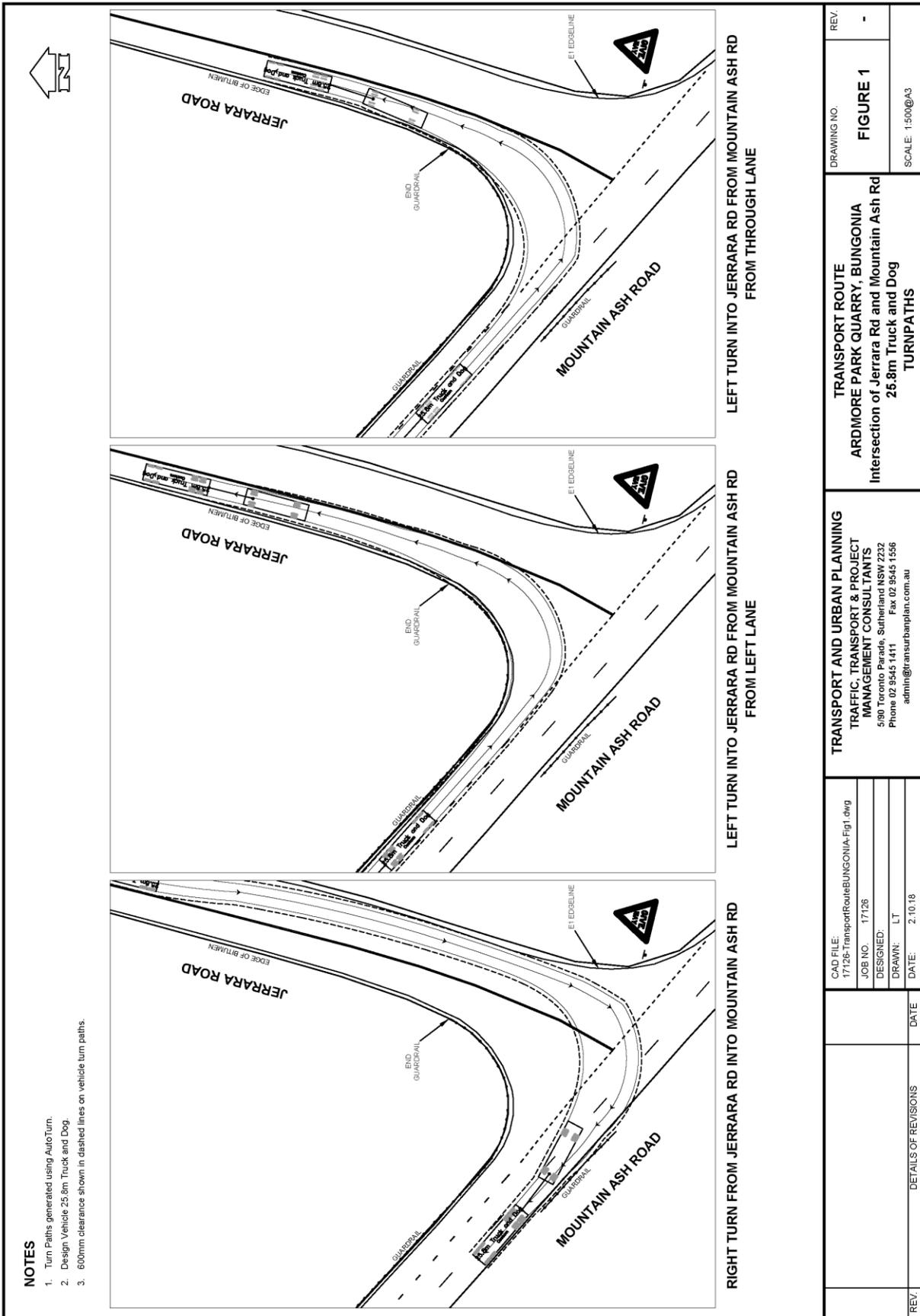
**Figures 3** shows the right turn out of and the left turn into the Private By-Pass Road to and from Oallen Ford Road.

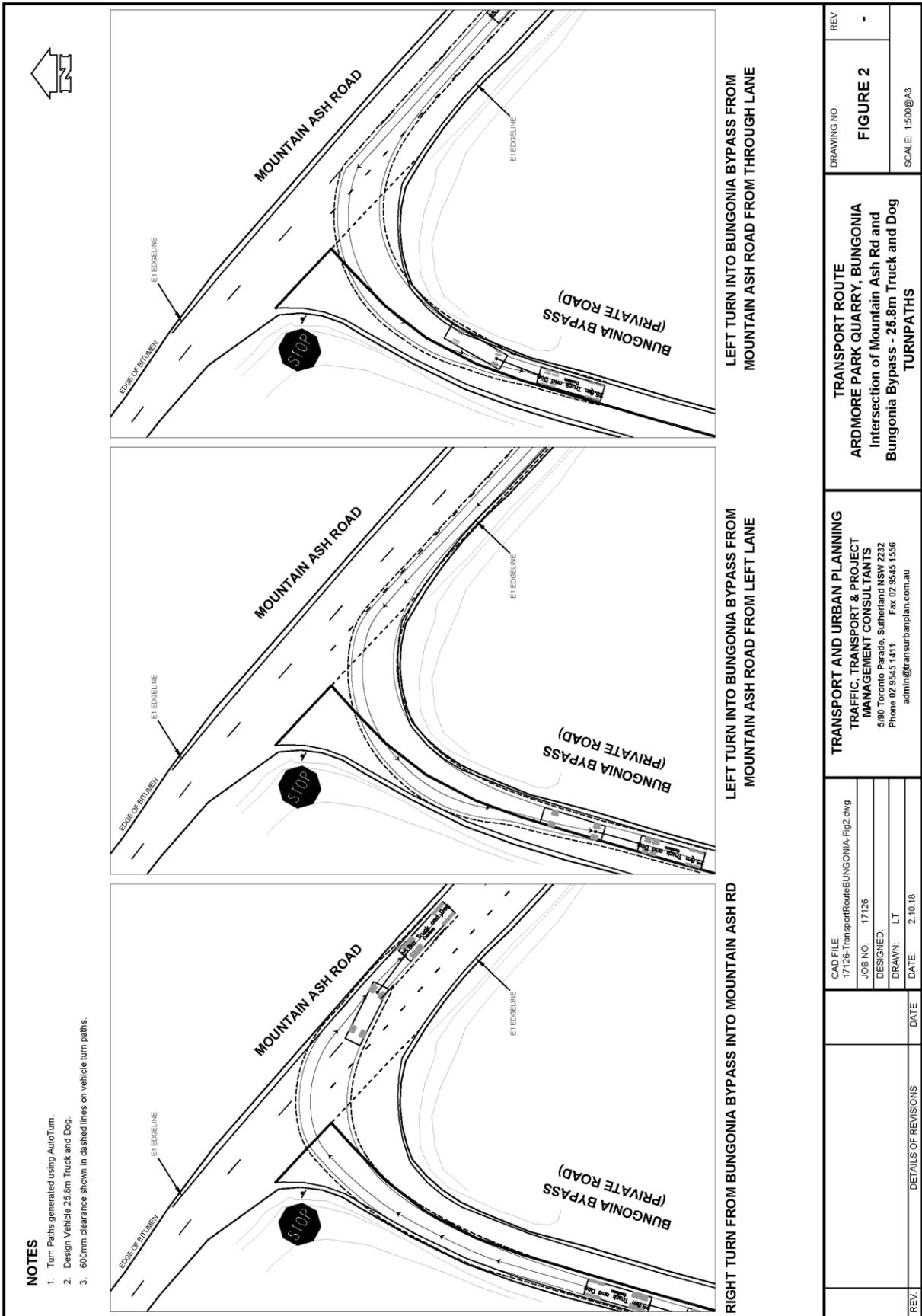
The swept paths for the left turn into the Private By-Pass Road shows the truck and dog turning from the kerbside auxiliary lane as well as from the adjoining northbound through lane which trucks are legally permitted to do.

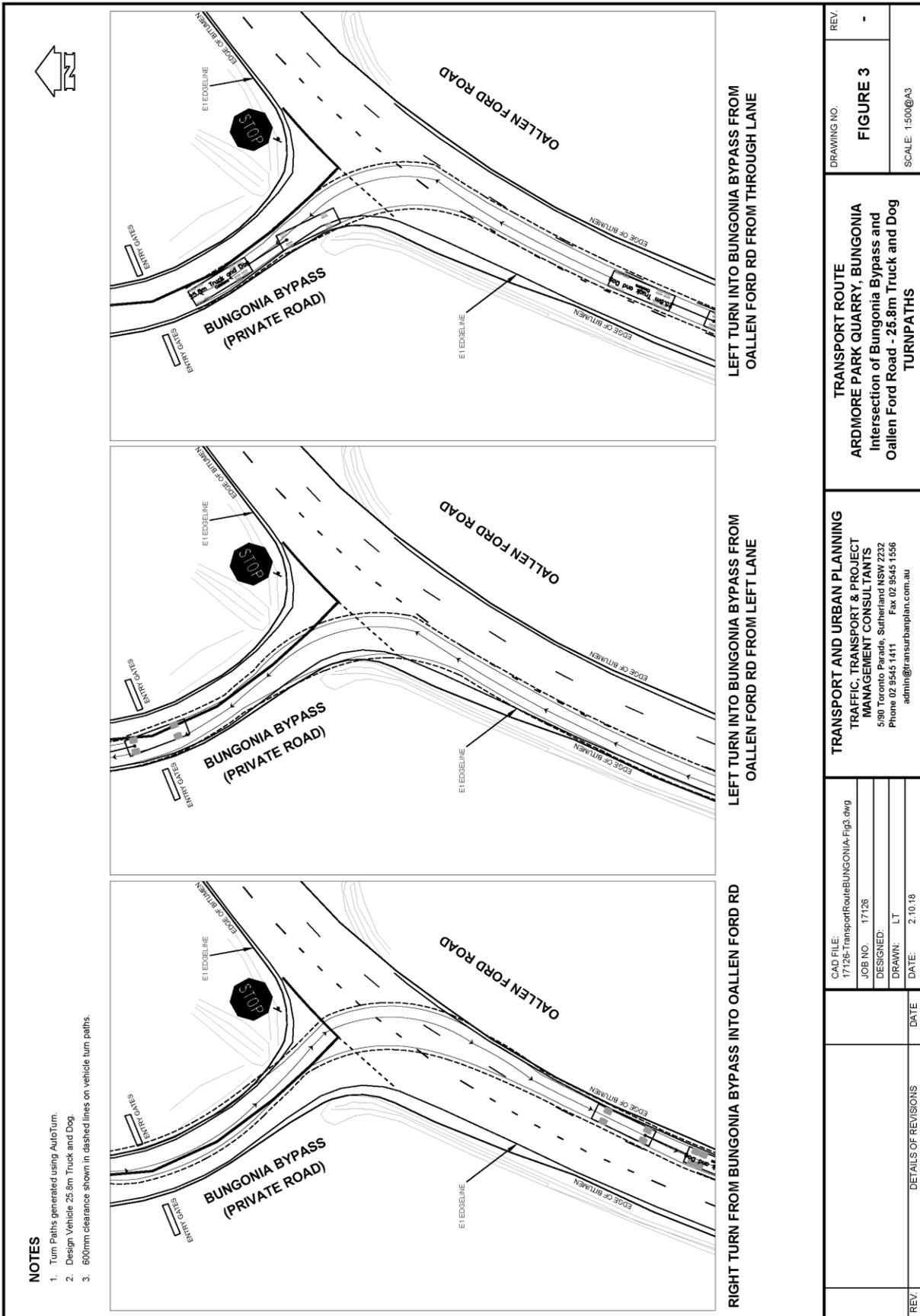
**Figure 4** shows the swept path turning movements for the truck and dog turning into and out of Quarry Access Road from Oallen Ford Road.

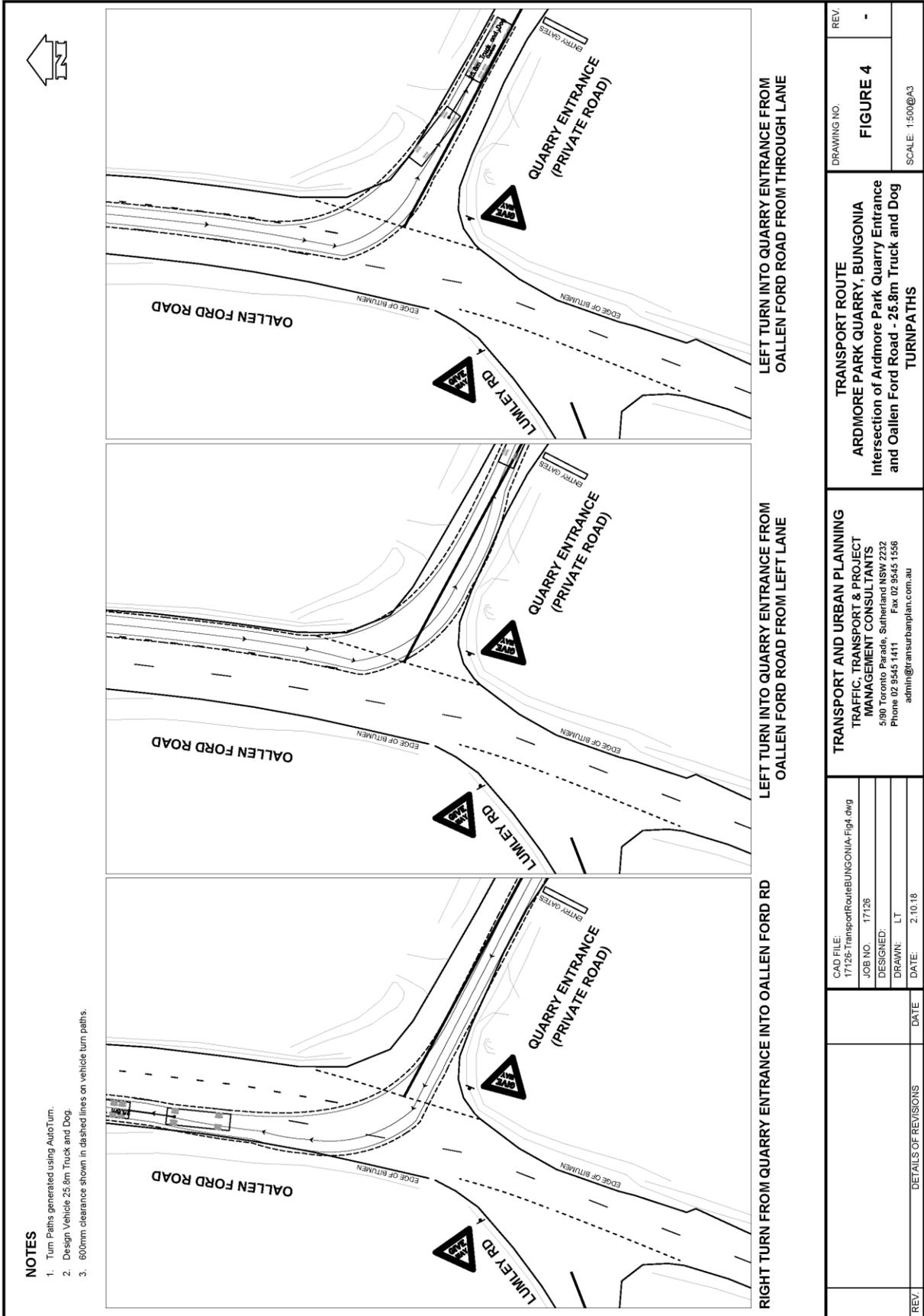
The swept paths for the left turn into the Quarry Access Road are shown for the left turn from the kerbside auxiliary lane and from the adjoining southbound through lane, which trucks are legally permitted to do.

Reference to **Figure 2, 3, and 4** shows that the swept paths are satisfactory.









**NOTES**

1. Turn Paths generated using AutoTurn.
2. Design Vehicle 25.8m Truck and Dog.
3. 800mm clearance shown in dashed lines on vehicle turn paths.

REV.	DRAWING NO.	FIGURE 4	REV.	-
	TRANSPORT ROUTE ARDMORE PARK QUARRY, BUNGONIA Intersection of Ardmore Park Quarry Entrance and Oallen Ford Road - 25.8m Truck and Dog TURNPATHS		SCALE:	1:500@A3
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REV.	DATE	DATE	DATE	DATE

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